

LANpress MP Installation and Configuration Guide
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For use with Castelle's LANpress MP family of print servers

LANpress MP™

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Chapter 1: Introduction

Thank you for purchasing a Castelle LANpress MP print server. Your new LANpress MP print server provides network printing for big and small networks alike.

LANpress MP print servers are small, portable network devices that are easily placed wherever your printers are located and that plug directly into the network. Depending on the model, you can connect up to four printers and plotters to the unit. LANpress MP print servers supports IPX/SPX, TCP/IP, NetBEUI and EtherTalk transport protocols and can print jobs from NetWare, Windows NT, Windows 95, Windows for Workgroups, UNIX and AppleTalk users simultaneously.

Note. The LANpress 2 + 1 MP Token Ring does not support AppleTalk.

The LANpress MP print server hardware is easy to install, and MPADMIN, the LANpress MP administration utility, makes it easy to configure as well. MPADMIN is a Windows utility that uses the IPX/SPX protocol to automatically locates your new LANpress MP print server on the network. Its easy-to-use screens allow you to configure the print server for NetWare, TCP/IP, NetBEUI and AppleTalk environments. Moreover, MPADMIN also configures the NetWare software, ensuring that the configuration a one stop operation. You only need to install the MPADMIN software on a Windows workstation that has the IPX/SPX protocol { XE "IPX/SPX protocol" } enabled. Your network does not have to support the IPX/SPX protocol.

LANpress MP print servers supports peer-to-peer printing { XE "peer-to-peer printing" }. The units are shipped with redirector software for Windows and UNIX workstations. (Windows 95, Windows NT and Windows 3.11 are supported.) You must install the redirector software on each workstation that is to use peer-to-peer printing. The software installs a LANpress MP device driver, Print Monitor { XE "Print Monitor" } for Windows or PSfilter for UNIX, that allows the user to configure a printer attached to the LANpress MP print server as a local printer. If the workstation operator sends a print job to the printer and the printer is busy, the redirector automatically resubmits the job until the printer accepts it.

LANpress MP print servers provide logical ports that can be used for printing. Logical ports allow you to use your printer's control codes to customize the printer settings for those print jobs that require special configuration that you do regularly. You can configure up to three logical ports on LANpress MP print servers that have one printer port and up to eight logical ports on LANpress MP print servers that have more than one physical printer port. To use this feature, you must map the logical ports to a physical port. The administrative tools provided with your unit make it easy for you to do this. If you want to set particular parameters for the printer, refer to the printer's documentation for the command codes it uses.

Note. If you install the LANpress MP print server in a UNIX environment that uses the LPD protocol { XE "LPD protocol" }, you must configure the print server with logical ports { XE "logical ports" }.

This manual is designed for the network administrator. The manual discusses

- The LANpress MP print server hardware
- Installing the LANpress MP print server on the network
- Configuring the LANpress MP print server for network environments
- Configuring workstations to access printers attached to the LANpress MP print server

Troubleshooting tips are provided for the physical installation and network configuration in the areas where those topics are discussed.

Style Convention

This manual uses the convention of placing text that the user types into the computer on a separate line. The line is indented and the boldface type is used. The parts of the text that are standard command statements are shown in regular **boldface** type. The parts of the text that are variable—serial numbers, printer names and so forth—are in *italicized boldface* type.

The Hardware

Your LANpress MP print server may be one of six models:

- The LANpress 3P/100
- The LANpress 3 + 1 MP
- The LANpress 2 + 1 MP
- The LANpress 2 + 1 MP Token Ring
- The LANpress 1P MP
- The LANpress Jr. MP

The **LANpress 3P/100** print server is the most versatile unit in the LANpress MP family. The LANpress 3P/100 features three bi-directional, IEEE1284 parallel ports; 10BASE-T and 100BASE-T Ethernet support; Auto-Negotiation { XE "Auto-Negotiation" }; a switch that allows you to manually configure the Ethernet speed and more.

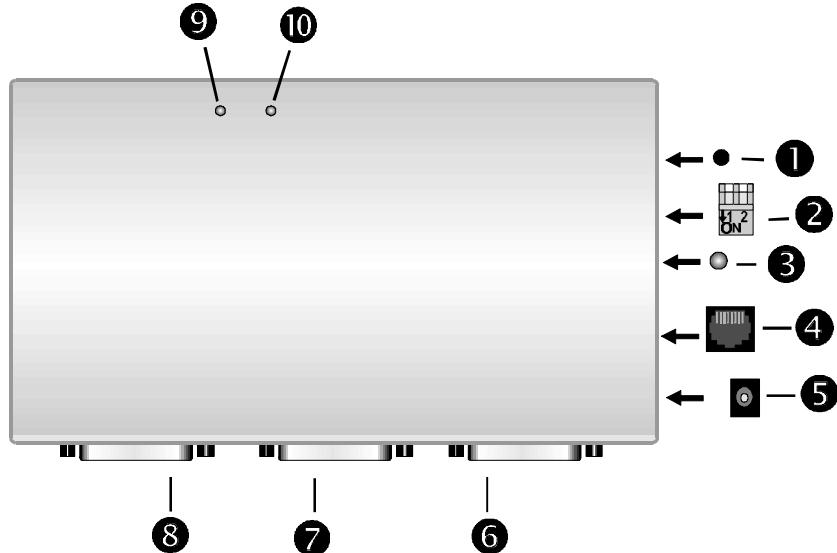


Figure 1 LANpress 3P/100

Description

- ① Reset Switch
- ② 10/100 Base-T Switch
- ③ Ethernet Link LED
- ④ RJ-45 (UTP) Connector
- ⑤ 12V Power port
- ⑥ Parallel Port 1
- ⑦ Parallel Port 2
- ⑧ Parallel Port 3
- ⑨ Red Error LED
- ⑩ Green Link LED

The LANpress 3 + 1 MP print server can print on up to 4 printers at one time. This model is equipped with three bi-directional, Centronics parallel ports and one RS-232 serial port, one BNC and one 10BASE-T Ethernet port (the unit automatically determines which connector you use when it is turned on).

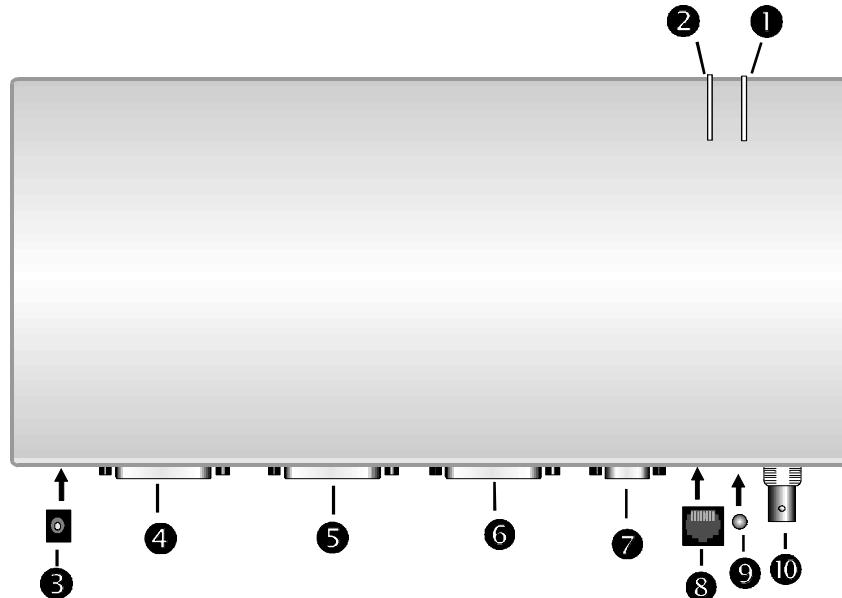


Figure 2 LANpress MP 3 + 1

Description

- ① Green Link LED
- ② Red Error LED
- ③ 9V Power port
- ④ Parallel Port 1
- ⑤ Parallel Port 2
- ⑥ Parallel Port 3
- ⑦ Serial Port
- ⑧ RJ-45 (10BASE-T) Connector
- ⑨ Ethernet (10BASE-T only) Link LED
- ⑩ BNC Connector

The **LANpress 2+1 MP** print server can print on up to 3 printers at one time. This model is equipped with two bi-directional, Centronics parallel ports and one RS-232 serial port, one BNC and one 10BASE-T Ethernet port you can use to connect to the network (autoselect determines which connector is used).

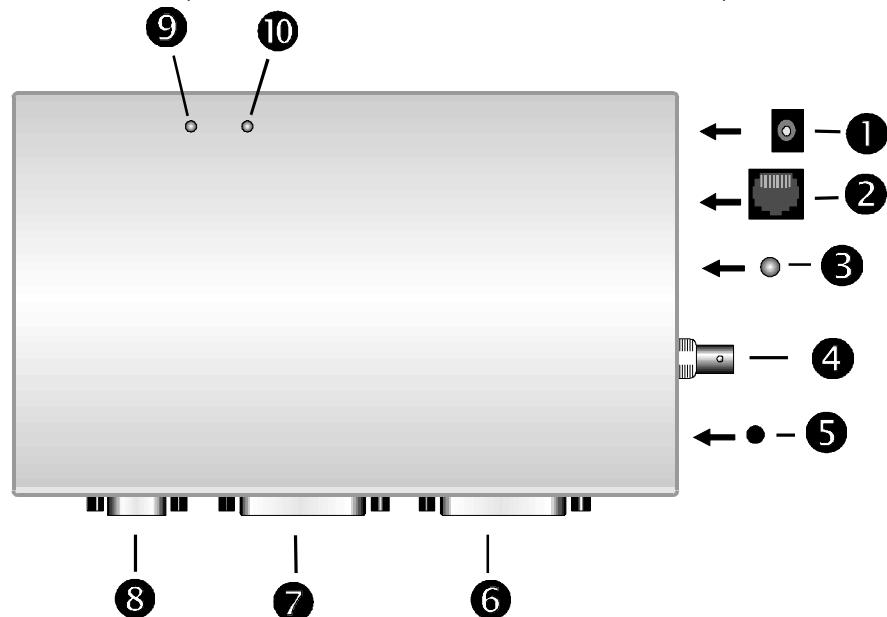


Figure 3 LANpress MP 2 + 1

Description

- ① 9V Power port
- ② 10BASE-T (RJ-45) Connector
- ③ Ethernet (10BASE-T only) Link LED
- ④ BNC Connector
- ⑤ Reset Button
- ⑥ Parallel Port 1
- ⑦ Parallel Port 2
- ⑧ Serial Port
- ⑨ Red Error LED
- ⑩ Green Link LED

The LANpress 2+1 MP Token Ring print server can print on up to 3 printers at one time. This model is equipped with two bi-directional, Centronics parallel ports and one RS-232 serial port, one STP (DB-9) and one UTP (RJ-45) Token Ring { XE "Token Ring" } port (use only one to connect to the network; the autoselect feature determines which connector is used). You can configure the unit to use 16-Mbs or 4-Mbs transfer rates. The LANpress 2+1 MP Token Ring print server supports UNIX, NetWare, Windows NT, Windows 95 and Windows for Workgroups operating systems. It does not support AppleTalk.

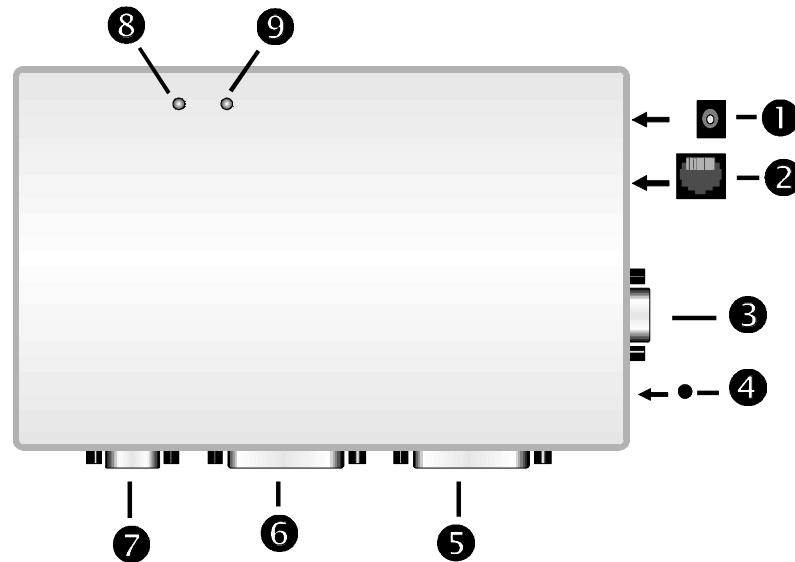


Figure 4 LANpress MP 2 + 1 Token Ring

Description

- ① 12V Power port
- ② UTP (RJ-45)Connector
- ③ STP (DB-9) Connector
- ④ Reset Button
- ⑤ Parallel Port 1
- ⑥ Parallel Port 2
- ⑦ Serial Port
- ⑧ Red Error LED
- ⑨ Green Link LED

LANpress 1P MP print server is equipped with a bi-directional, Centronics parallel port, and has one BNC and one 10BASE-T Ethernet port you can use to connect the unit to the network (Autoselect determines which connector is used).

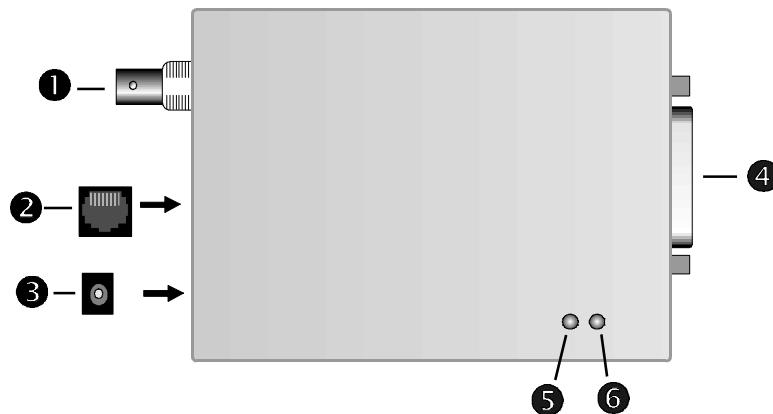


Figure 5 LANpress MP 1P

Description

- ① BNC Connector
- ② 10BASE-T (RJ-45) Connector
- ③ 9V Power port.
- ④ Parallel Port
- ⑤ Green Link LED
- ⑥ Red Error LED

LANpress Jr. MP attaches directly to the Centronics parallel port on your printer. It is equipped with 10BASE-T and BNC Ethernet network connectors. { XE "LED indicators:location of" }

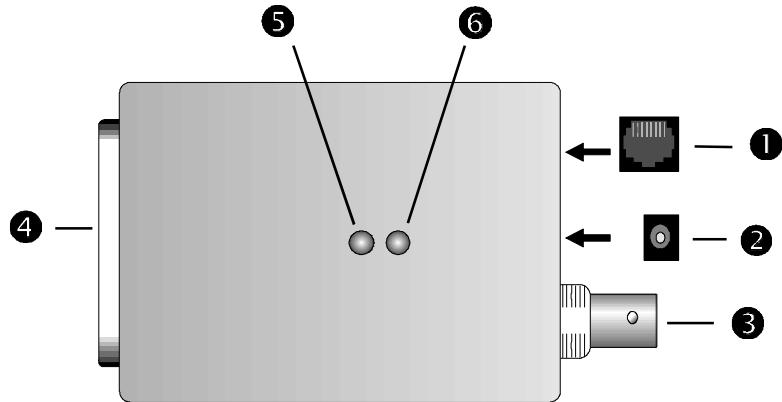


Figure 6 LANpress MP Jr.

Description

- ① 10BASE-T (RJ-45) Connector
- ② 9V Power port.
- ③ BNC Connector
- ④ Parallel Port
- ⑤ Green Link LED
- ⑥ Red Error LED

This manual covers all models of LANpress MP. Unless otherwise specified, this manual refers to all models as "the LANpress MP print server." Specific models are referred to only where differences between them are discussed.

Chapter 2: Hardware Installation

This { XE "Hardware installation" } chapter describes installing the LANpress MP print server on a local area network and provides troubleshooting tips for some common failures.

Package Contents

Your LANpress MP package { XE "Package contents" } contains the following items:

- The LANpress MP Unit
- Power adapter{ XE "Power adapter" }
- LANpress MP Diskettes: { XE "Diskettes:supplied with LANpress MP" }
 - ◊ Administration Utilities for Windows & DOS
 - ◊ Windows 95 & Windows NT Print Redirector
 - ◊ Windows for Workgroups Print Redirector
 - ◊ UNIX Print Redirector (TAR Format)
 - ◊ AppleTalk Administration Utilities (not include with LANpress MP 2+1 Token Ring)
- Installation and Configuration Guide

Hardware Installation

- 1 Write the LANpress MP print server's serial number on a piece of paper. { XE "Serial number:writing down" } The number is printed on the bottom of the unit. You will need to know the serial number when you configure the unit for operation.
- 2 This step applies to the LANpress 3P/100 only. If you are installing another model, go to step 3. If you are installing the LANpress 3P/100 in a 100BASE-T environment, you must use a category 5 cable to connect the print server to the network.

The LANpress 3P/100 allows you to manually select how it responds to your Ethernet configuration. You can configure it to use Auto-Negotiation { XE "Auto-Negotiation" } to determine whether to use 10BASE-T or 100BASE-T, you can manually configure it to use 10BASE-T or 100BASE-T, and you can configure the unit to use full-duplex communication { XE "full-duplex communication" } or half-duplex communication { XE "half-duplex communication" }. The factory default has all three switches in the up position. This position enables Auto-Negotiation which overrides the other conditions. The configuration options available are described below.

- A** Auto-Negotiation { XE "Auto-Negotiation" } allows the unit to determine the best configuration for sending messages over the network. In a network environment that has both 10BASE-T and 100BASE-T users, the LANpress 3P/100 determines which protocol to use on a case-by-case basis. This is the factory default setting. To enable Auto-Negotiation, set switch 1 on the switch block (shown in Figure 1) to the high position.
- B** To manually set the Ethernet protocol, set switch 2 to the high position to enable 100BASE-T. Set switch 2 to the low position to enable 10BASE-T. Disable switch 1, Auto-Negotiation.
- C** If you set the unit to operate manually, you must also set the communication process. The unit can operate in full-duplex mode or half-duplex mode. Full-duplex { XE "Full-duplex" } is a process that enables two-way, simultaneous communication between the LANpress 3P/100 and the hub. Your hub must also support full-duplex and have the feature enabled (see your hub documentation for details). If full-duplex { XE "full-duplex" } is not enabled on your hub, the LANpress MP print server will not connect if you enable this option. Full-duplex increases performance in this situation. To enable this feature, set switch 3 to the high position and disable switch 1, Auto-Negotiation. To disable this feature, set switch 3 to the low position. Half-duplex provides one-way communication.

3 { XE "Network cable:connecting" } Connect the unit to the network. Use either the RJ-45 connector or the BNC connector if your unit has one.

Note. Do not change the network connector while the LANpress MP is powered on.

- 4** { XE "Connecting printers" } Attach the printers to the LANpress print server printer ports. If you are installing a LANpress MP Jr., be sure to use the bail clips to secure the unit to the printer. { XE "Printers:connecting" }.

Warning. If the LANpress MP is powered on, take the printer Off-Line before connecting it to the LANpress MP. Failure to do so can damage your LANpress MP or your printer. Switch the printer back On-Line after you connect it to the LANpress MP.

Note: Under NetWare, the { XE "Queues:\\"attaching\\" to under NetWare" } LANpress MP will not "attach" to its print queues unless a printer is connected and on-line.

- 5** { XE "Power supply:connecting" } Connect the LANpress MP power supply to the unit and plug the power supply into an AC power outlet.

Warning. { XE "Power supplies:not interchanging" } If you have more than one LANpress MP unit, be careful not to interchange their power supplies. The power supply voltage and polarity may differ for each LANpress MP model. Interchanging the power supplies can damage the LANpress MP's circuitry. Check the voltage and polarity labels on both the LANpress MP and on the power supply before connecting the two.

{ XE "Velcro strips:using to mount LANpress MP" } Self-adhesive Velcro strips are provided with the LANpress MP print server so that you can mount { XE "Mounting LANpress MP:with Velcro strips" } the unit to the side of a printer.

Indicators

All LANpress MP units have a green LED and a red LED placed next to each other. { XE "LED indicators" } { XE "Indicator LEDs" } The green LED in this pair is solid when the unit is powered on but idle. When the green LED is flashing, the unit is communicating with the network. The red LED in this pair flashes when power is first applied to the unit. A solid red LED indicates a LANpress MP print server hardware error.

The LANpress 3P/100, LANpress 3 + 1 MP and LANpress 2 + 1 MP have a second green LED next to the RJ-45 connector. This LED indicates that the unit has established communication with the network. It remains solid until the network connection is broken, and it turns off.

Hardware Troubleshooting

{ XE "Troubleshooting:hardware" } This section contains troubleshooting information regarding the LANpress MP hardware.

Check Printer and Cables

Test the printer and cable by connecting them directly to a computer and printing.

Check LEDs

- Q. All of the LANpress MP's LEDs are off. What should I do?
 - A. Check the power supply or power connection.
- Q. LANpress MP's red status/error LED continuously lights up. What should I do?
 - A. Reset LANpress MP by unplugging the power supply and plugging it back in.
- Q. I used a 10BASE-T connector to connect the LANpress MP to the network, and it does not work. What should I do?
 - A. Check the link LED for the port on the 10BASE-T hub to which the LANpress MP is connected. If it is off, make sure network cable is in good condition.

Chapter 3: LANpress MP Administration Utility

The LANpress MP utility { XE "LANpress MP utility" } is proprietary software that allows the LANpress MP administrator to configure and manage the LANpress MP print server. The utility is available in a Windows version, MPADMIN, and a DOS version, MPCONFIG. Both versions are stored on the LANpress MP Administration Utilities diskette{ XE "LANpress MP Administration Utilities diskette" }. MPADMIN must be installed on the hard disc of a Windows workstation. MPCONFIG can be used from a hard disc or from the diskette.

The LANpress MP utility uses the IPX/SPX protocol { XE "IPX/SPX protocol" } to contact the LANpress MP print servers after the print server is first installed on the network. After communication is established, the administrator can configure the LANpress MP print server with a TCP/IP address and configure the unit to work in NetWare, Windows NT, NetBEUI, UNIX and AppleTalk environments. The utility saves the parameters on the LANpress MP print server's non-volatile memory.

MPADMIN can be installed on Windows 95, Windows NT, Windows 3.11 and Windows 3.1 workstations. MPADMIN uses a Windows-styled interface that allows you to use the mouse to make selections and configuration adjustments. If you are configuring the LANpress MP print server for a NetWare environment, MPADMIN automatically configures the NetWare software too. You set the configuration parameters once and MPADMIN does the rest.

The MPCONFIG DOS utility that has a PCONSOLE-styled user interface. MPCONFIG navigates in the same manner as PCONSOLE, and uses the same style of list boxes for decision making. If you are installing the LANpress MP in a NetWare environment, however, you must use MPADMIN to set the parameters for the LANpress MP and a NetWare utility to set the NetWare parameters.

This chapter tells you how to install MPADMIN and MPCONFIG utilities. It also provides a brief description of the features and commands for each utility. Instructions for configuring LANpress MP print servers for specific platforms using either utility are provided in the chapters where the platforms are discussed.

MPADMIN

The MPADMIN utility is located on the LANpress MP Administration Utilities for Windows & DOS diskette. You can install MPADMIN on Windows 3.1, Windows 3.11, Windows 95 and Windows NT workstations. This section describes installing MPADMIN and its features.

Requirements:

- IPX/SPX protocol installed and active on the workstation MPADMIN is installed on. The network does not have to support IPX/SPX protocol for you to use MPADMIN. Refer to your Windows documentation if you need assistance verifying that the protocol is installed or if you need assistance installing the protocol.

Installing MPADMIN

- 1 Open Windows.
- 2 Go to Run.
- 3 Insert the Administration Utilities diskette into a floppy drive.
- 4 Type

Drive: setup

Press enter.

Where **Drive:** is the floppy disc drive letter.

- 5 Follow the instructions on the screen to install the utility.

When the installation is complete, the program creates the Castelle LANpress program group. The group includes a README file and MPADMIN.

The MPADMIN Graphical Interface

To invoke the MPADMIN graphical interface, locate the Castelle LANpress program group and select MPADMIN. The main menu is shown in the Figure below. The MPADMIN main menu consist of a pull down menu bar that gives you access to all of MPADMIN's features and commands, a tool bar that provides a shortcut to some of the MPADMIN commands and features, and a list of LANpress MP print servers. This section first discusses the print server list and its parameters, then discusses the pull down menus and tool bar icons. Tool bar icons are shown when the pull down menu command they represent are discussed.

The LANpress Print Server List

When you invoke MPADMIN, the utility sends an inquiry over the network to determine what LANpress MP print servers are active. MPADMIN list the print servers in the main menu by their serial number, device name and Network number and provides the number of printer ports for the LANpress MP model.

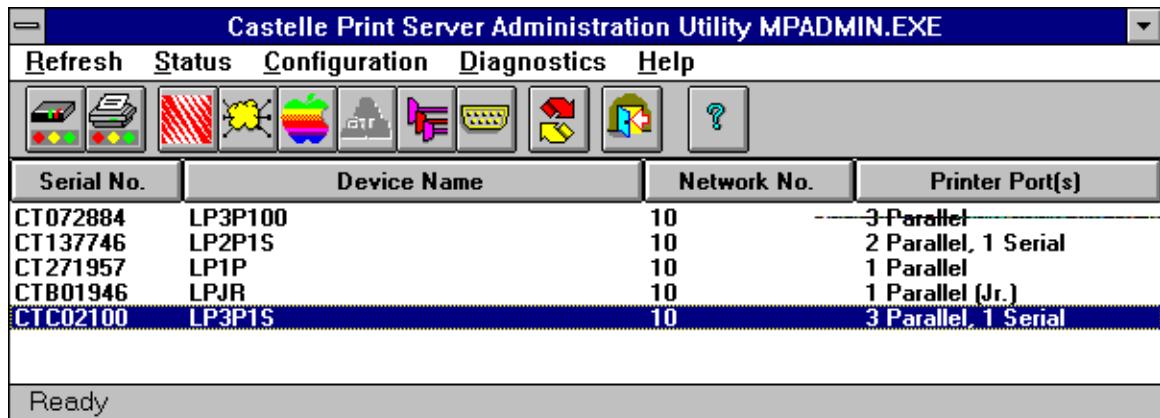


Figure 7 Print Server Administration Utility

Serial No —This is an alphanumeric string assigned to the unit at the factory. The serial number is printed on the label attached to the bottom of the unit.

Device Name—This is the name used to identify the unit on the network. The default name is the serial number. You can change the name when you configure the unit for operation or by using the System command in the Configuration pull down menu.

Network No—This is a NetWare convention NetWare administrators can use to identify the relative physical location of a unit attached to the NetWare network. If you do not have a Novell file server on your network, this field shows zero.

Printer Port—This list the number and type of printer ports the attached LANpress MP print server has. This feature is model specific; it list the available ports the model has whether or not there is a printer attached to them.

To use MPADMIN, click once on the LANpress MP print server you want and select the MPADMIN command. You can display configuration information and general information about the device by double clicking on the print server.

Pull Down Menu Commands

Refresh—Refresh updates the MPADMIN device list. Changes that have not been saved to device are discarded, and the list is updated with the latest saved information.

Status—This option allows you to display configuration information stored in the print server's memory, Device Information, and to display the current activity information for the printer ports, Printer Port Status.

Device Information provides general and configuration information about the selected LANpress MP print server. The information provided includes the LANpress unit's Firmware version, Ethernet address, IP address, NetWare Print Server status, Remote Printer status and more.

Printer Port Status provides the current printer and printer port status.

Configuration—This menu allows you to view and set the configuration for a selected LANpress MP print server. The options in this menu allows you to configure the print server for NetWare, TCP/IP, AppleTalk and NetBEUI protocols; to configure the serial and parallel ports; to change the device name; to turn off protocol support that you are not using and more.

System—Allows you to change the name used to address the LANpress MP print server on the network, and to enable and disable the protocols the unit responds to.

NetWare—Allows you to configure the LANpress MP print server for the NetWare environment. The software also configures NetWare.

TCP/IP—Allows you to configure the LANpress MP print server with a TCP/IP address and a subnet mask, and to provide the router IP address the unit uses to connect to beyond the local segment.

AppleTalk—Allows you to configure the LANpress MP print server for AppleTalk.

NetBEUI—Allows you to configure the LANpress MP print server networks that use NetBEUI with the SMB protocol. When the LANpress MP print redirector is used in the NetBEUI environment for printing, this option is not configured.

Serial Port—Allows you to configure the LANpress MP print servers serial port.

Logical Port—Allows you to configure the LANpress MP print servers logical ports. The unit may have up to 8 logical ports depending on the model.

Restore Factory Default—Restores the factory default settings to the unit.

Diagnostics—

Print to Test Page—Allows you to print a page, the unit's Device Information table, to a selected printer port.

Reset Device—Causes the selected LANpress MP print server to reset.

MPCONFIG

MPCONFIG is located in the DOS directory on the LANpress MP Administration Utilities for Windows & DOS diskette. You can install MPCONFIG on your hard disc or you can invoke and use it from the diskette. This section describes how to invoke MPCONFIG and provides a brief description of its features.

Invoking MPCONFIG

Requirements

- Log onto the network with administrator privilege

- 1 Log onto a file server with supervisory privilege.
- 2 Insert the diskette in the floppy drive.

3 Go to the DOS prompt for the floppy drive.

4 Type:

cd dos

Press Enter.

5 Type:

mpconfig

Press Enter.

6 Select the serial number of the LANpress MP print server you want to configure.

MPCONFIG presents a menu list in the manner of PCONSOLE. Use the arrow keys to navigate to the option you want and press Enter to select the option.

Change Configuration—Provides the means whereby you can configure the LANpress MP print server for network environments it supports.

System Configuration—Allows you to set operating parameters of the selected LANpress MP print server.

Device Name—Allows you to assign the name the LANpress MP print server uses on the network. The default name is the unit serial number.

NetWare IPX/SPX—Allows you to enable and disable support for the NetWare transport protocol in the LANpress MP print server. When this feature is disabled, the LANpress MP print server does not service NetWare clients. The unit is shipped with this feature enabled.

TCP/IP—Allows you to enable and disable support for the TCP/IP transport protocol in the LANpress MP print server. When this feature is disabled, the LANpress MP print server does not service TCP/IP clients. The unit is shipped with this feature enabled.

AppleTalk—Allows you to enable and disable support for the AppleTalk transport protocol in the LANpress MP print server. When this feature is disabled, the LANpress MP print server does not service AppleTalk clients. The unit is shipped with this feature enabled.

NetWare Configuration—Allows you to configure the LANpress MP print server for NetWare.

Operation Mode—Allows you to set the LANpress MP print server's operation mode.

Print Serve Mode (PS){ XE "print server mode" }—Causes the LANpress MP print server to act as a print server. As a print server, the LANpress MP polls the print queues and manages the flow of print jobs to its local printers.

Remote Printer Mode (RP)—Cause the LANpress MP print server to serve as a remote printer. In remote printer mode { XE "remote printer mode" }, the LANpress MP is a network node with printers attached. Pre-defined NetWare print servers poll the print queues and manage the flow to printers attached to the LANpress MP print server.

Frame Ethernet_II—Allows you to enable and disable this frame protocol

Frame Ethernet_802.2—Allows you to enable and disable this frame protocol

Frame Ethernet_802.3—Allows you to enable and disable this frame protocol

Frame Ethernet_SNAP—Allows you to enable and disable this frame protocol

Master File Server—Allows you to name the Novell Bindery file server the LANpress MP print server will use as its master file server { XE "master file server" }. The LANpress MP print server must have a master file server in Bindery mode. The unit can support up to 16 file servers.

Notify by Connection IP— Allows you to have the print server notify users listed in the NetWare notification list that their jobs are printed.

Queue Polling Interval—Allows you to set the interval, in seconds, that the LANpress MP print server uses to poll the print queues for new jobs.

NDS Tree Name—Allows you to name the NDS tree the LANpress MP print server will be installed in. The software allows you to browse the network for available NDS trees.

NDS Context—Allows you to name the NDS contexts the LANpress MP print server will be installed in. You must manually enter the name of the context you want to use.

TCP/IP Configuration—Allows you to set the TCP/IP address parameters the LANpress MP print server will use.

IP Address—Allows you to assign the LANpress MP print server an IP address.

Gateway Address—Allows you to set the IP address of the gateway required to connect the LANpress MP print server to other network segments.

Subnet mask—Allows you to assign the LANpress MP print server a IP mask. The print server must use a gateway to have a subnet mask.

AppleTalk Configuration—Allows you to specify the Apple-compatible printers you attach to the LANpress MP print server printer ports.

Printer type (Px)— Allows you to specify the Apple-compatible printer you attach to the specified LANpress MP print server printer port.

NetBEUI Configuration—Allows you to configure the LANpress MP print server for the NetBEUI environment.

Domain Name—Allows you to specify the domain name or group name the LANpress MP print server supports.

Drop Job as Paper Out—Allows you to abort the print job when the printer runs out of paper.

Response Time (0.1 sec)—Allows you to set the length of time the print server will wait for a response from the workstation when SMB is used.

Logical Ports—Allows you to create logical printer ports { XE "logical printer ports" } for the LANpress MP print server. You can create up to three logical ports for LANpress MP print server models that have one printer port. You can create up to eight logical ports for LANpress MP print server models that have more than one printer port.

Lx Physical Port—Allows you to assign a LANpress MP physical port { XE "physical port" } to the specified logical port.

Lx String Before Job—Allows you to send instructions to the printer before the file is printed. The instructions are issued using the control code commands provided by the printer manufacturer. See your printer documentation. The codes may be listed under control codes or HP emulation commands.

To use the String Before Job { XE "String Before Job" } feature, enter the hexadecimal characters for the control code you want to use. You may use up to 15 command codes in the String After Before text box, and no more than 44 command codes total.

Lx String After Job—Allows you to send instructions to the printer after of the file is printed. The instructions are issued using the control code commands provided by the printer manufacturer. See your printer documentation. The codes may be listed under control codes or HP emulation commands.

To use the String After Job { XE "String After Job" } feature, enter the hexadecimal characters for the control code you want to use. You may use up to 15 command codes in the String After Before text box, and no more than 44 command codes total.

Lx Convert LF to CR&LF—This option instructs the printer to issue a carriage return and a line feed at the end of each line. If the text you are printing does not wrap at the end of the line, try this option.

Serial Port Configuration—Allows you to set the baud rate, stop bits, parity, data bits and handshake parameters you serial printer uses.

Execute Change—Saves the changes to non-volatile memory.

Set to NetWare Print Server Mode—Allows you to configure the LANpress MP print server for the NetWare environment.

Print Server Name—This is the name the LANpress MP print server uses on the network.

NDS Tree Name—Allows you to select the NDS tree you want to use.

Print Server NDS Context—Allows you to enter the NDS context you want to use.

Master File Server (Bindery Mode Only)—Allows you to select the NetWare file server that will serve as the LANpress MP print server's master file server. The LANpress MP print server must have a master file server in the Novell Bindery environment.

Polling Queue Interval{ XE "polling queue interval" \i }—Allows you to set the interval, in seconds, that the LANpress MP print server uses to poll the print queues for new jobs.

Job Notification by Connection ID{ XE "job notification by connection ID" \i }— Allows you to have the print server notify users listed in the NetWare notification list that their jobs are printed.

Serial Port Configuration—Allows you to set the baud rate, stop bits, parity, data bits and handshake parameters you serial printer uses.

Frame Selection—Allows you to set the Frame parameters the LANpress MP print server will support.

Ethernet_II—Allows you to enable and disable this frame protocol

Ethernet_802.2—Allows you to enable and disable this frame protocol

Ethernet_802.3—Allows you to enable and disable this frame protocol

Ethernet_SNAP—Allows you to enable and disable this frame protocol

Change Password—Allows you to set a password for the LANpress MP print server. The user must have the password to use the print server.

Execute Change—Saves the changes to non-volatile memory.

Set to NetWare Remote Printer Mode—Allows you to configure the LANpress MP print server to serve as a remote printer to Novell print servers.

Device Name—Allows you to assign a name for the LANpress MP print server. This name is use by the network print servers to identify the LANpress MP on the network.

NetWare Print Server Name—The name of the Novell print server you want to use the LANpress MP.

for Parallel Port x: Novell print serve name.

for Serial Port: Novell print serve name.

Serial Port Configuration—Allows you to set the baud rate, stop bits, parity, data bits and handshake parameters your serial printer uses.

Frame Type Selection—Allows you to set the Frame parameters the LANpress MP print server will support.

Ethernet_II—Allows you to enable and disable this frame protocol

Ethernet_802.2—Allows you to enable and disable this frame protocol

Ethernet_802.3—Allows you to enable and disable this frame protocol

Ethernet_SNAP—Allows you to enable and disable this frame protocol

Execute Setup—Saves the changes to non-volatile memory.

Display Status—Allows you to display information about the LANpress MP print server's hardware, the network setting and the printer port settings.

Device Information—This option displays information on the non-volatile memory about the LANpress MP print server hardware and the network settings.

Hardware ID—A code number that identifies the LANpress MP print servers type and revision level.

Firmware Version—The version of the firmware the LANpress MP print server is using.

Protocol ID—A code number that identifies the type and revision level of the protocols the LANpress MP print server supports.

Ethernet Address—The Ethernet address assigned to the LANpress MP print server at the factory. This number cannot be changed.

Device Name—The name currently used to identify the LANpress MP print server on the network.

NetWare Information—Displays information about the NetWare configuration.

Master File Server—The name of the NetWare Bindery server the LANpress MP print server uses as its master file server.

Print Server Mode Status—Indicates whether or not the selected LANpress print server is configured in print server mode. In print server mode, the LANpress MP polls the print queues and manages the flow of print jobs to its local printers. If the print server is configured for Remote Print Server Mode, N/A is displayed.

Remote Print Server Mode Status—Indicates whether or not the selected LANpress print server is configured in remote print server mode. In remote print server mode, the LANpress MP print server serves as a node on the network with printers attached. A pre-defined Novell print server polls the print queues and manages the flow of print jobs to the printers attached to the LANpress print server. If the print server is configured for Print Server Mode, N/A is displayed.

AppleTalk Information—Displays information about the AppleTalk configuration.

Print Type—List the of Apple-compatible computers assigned to the LANpress MP print server ports.

TCP/IP Information—Displays information about the TCP/IP configuration.

IP Address—Shows the IP address assigned to the selected LANpress MP print server.

Gateway Address—Displays the IP address of the gateway required to connect the LANpress MP print server to other network segments.

Subnet mask—The mask address the LANpress MP print server uses. Use only in conjunction with a gateway.

Printer Port Status—Displays the current status information for each LANpress MP printer port.

Px Status—Displays the current condition or the printer port.

Type—Identifies the port as parallel or serial.

Printer Status—Reports whether the printer port is on-line.

Reset Now—Allows you to reset the selected LANpress MP print server.

Print Diagnostic Report—Cause the printer port you select to print a report. The report includes information in the LANpress MP print server's non-volatile memory.

Restore to Default Configuration—Allows you to reset the selected unit's configuration to the factory default condition.

Using MPCONFIG

To use MPCONFIG to configure or modify the current configuration of a LANpress MP print server:

- 1 Open MPCONFIG. A list of LANpress MP print servers appears on the screen.
- 2 Select the LANpress MP print server you want and press <Enter>.
- 3 Select Configure and press <Enter>. A list of parameters appears.
- 4 Select the item you want to change and press <Enter>.
- 5 Edit the item and press <Enter>.

- 6 To change other items, repeat steps 4 and 5 as necessary.
- 7 When you are done, choose Execute Setup from the Available Options menu to apply the configuration change and reboot the unit.

Note: You can get on-line help for MPCONFIG by pressing the <F1> key.

Chapter 4: Installing the LANpress MP in the NetWare Environment

{ XE "NetWare:installation under" }LANpress MP print servers provide a high degree of flexibility in the Novell environment. All LANpress MP print server models support Novell Directory Services (NDS)—NetWare 4.x—and Novel Bindery—NetWare 3.1x and NetWare 2.2. The units' small size and light weight allow you to place them anywhere. (A Velcro strip is included in the packaging that you can use to attach your LANpress MP print server to your printer.) LANpress MP print servers can be configured as active print servers whereby they poll the print queues for jobs and manage the printers print loads, or they can be configured as remote printers whereby they act as passive nodes on the network that you attach printers to. This chapter tells you how you can configure your LANpress MP print server for the NetWare environment.

Requirements

- The LANpress MP print server connected to the network and powered on
- You must be able to log onto the network with administrator privilege

Using MPADMIN to Configure the LANpress MP Print Server and NetWare

This section describes how to use MPADMIN to configure the LANpress print server for NetWare. The MPADMIN utility configures both the LANpress MP print server and the NetWare environment. The NetWare option in MPADMIN uses dialog boxes to guide you through the configuration. You can do a quick configuration where MPADMIN creates and names the objects NetWare requires or you can do a custom configuration.

Requirements

- MPADMIN installed on a Windows workstation
- The workstation must have the IPX/SPX protocol enabled

- 1 Locate the Castelle LANpress program group on your desktop and select MPADMIN.
- 2 Click on the NetWare button or open the Configuration pull down menu and select NetWare.
- 3 In the Operations Mode dialog box, select the mode of operation you want to configure the LANpress for.
 - NDS Print Server—Select this option if your network uses NDS and you want the LANpress to serve as a print server on the network.
 - NDS Remote Printer—Select this option if your network uses NDS and you want to use the LANpress as a remote network printer.

- Bindery Print Server— Select this option if your network uses Bindery and you want the LANpress to serve as a print server on the network
- Bindery Remote Printer— Select this option if your network uses Bindery and you want to use the LANpress as a remote network printer.

Select NEXT.

- A Login dialog box appears. Log onto the NDS tree { XE "NDS tree" \i } and context or the Bindery file server that you want to connect the LANpress MP print server too. If you are installing the LANpress MP in remote printer mode { XE "remote printer mode" \i }, log onto the NDS tree and context or the Bindery file server where the remote print server resides.
- Configure the LANpress MP for the operating mode you selected

A If you selected NDS Print Server:

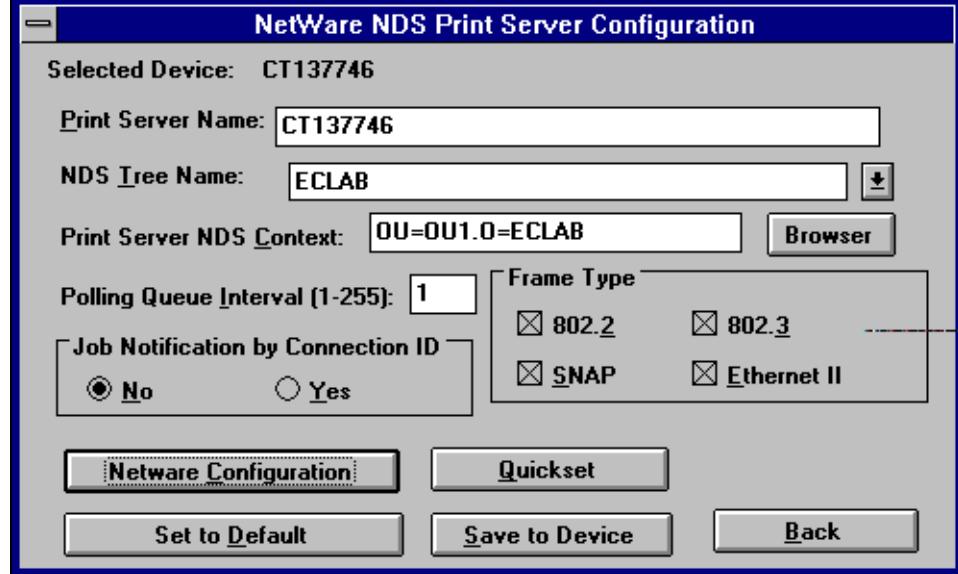


Figure 8 NDS Print Server Configuration

Note. The Print Server Name is the name that identifies the LANpress print server on the network. The unit's serial number is the default name. You can change the name if you desire.

- Locate the NDS tree name text box. Click on the arrow and select the NDS tree you want to use for the LANpress MP print server.
- Click on the Browse button and select an NDS context for the LANpress MP print server.
- In the Polling Queue Interval { XE "Polling Queue Interval" \i } text box, enter the interval value, in seconds, that you want the LANpress MP to poll the print queues for new jobs.

- 4 The job notification feature causes the LANpress MP server to send a confirmation to the user when the print job is done. Select Yes if you want to enable this feature; select No if you want to disable this feature.
- 5 Select the Ethernet Frame Types the LANpress MP server will use to communicate with other devices on the network. Make sure that the workstation you are using to configure the LANpress uses an Ethernet Frame Type that you choose, or you will not be able to communicate with the LANpress server from the workstation after the configuration is saved.
- 6 Select the Quickset { XE "Quickset" \i } or the NetWare Configuration buttons to set the NetWare print server and NetWare print queue parameters for the LANpress MP print server. The parameters you set using either feature are written to the LANpress MP print server and used to configure the NetWare software.

Quickset provides a fast and easy way to configure print queues for the LANpress print server. Quickset automatically generates a printer name and a print queue name in the context you select for the print server for each LANpress MP port that it uses to configure the NetWare software. You can change the name assigned to the print queue in the Queue text box. Click on the Setup button to save the configuration to the LANpress MP print server and to NetWare. Quickset uses default values to configure the other NetWare print parameters.

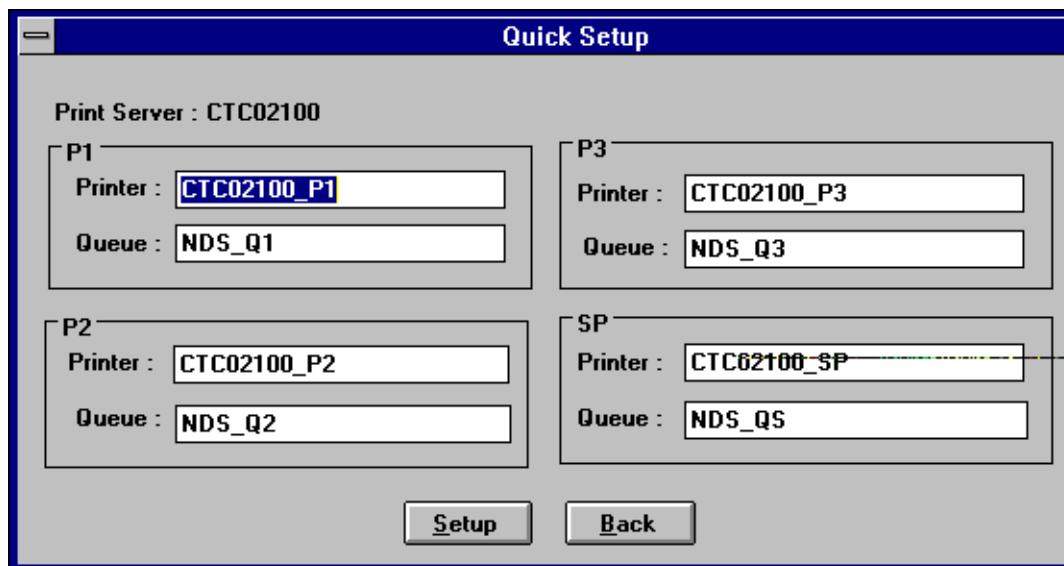


Figure 9 Quick Setup

NetWare Configuration allows you to customize the NetWare configuration for the LANpress MP. NetWare Configuration provides dialog boxes that allow you to assign print queues, assign user privilege, create a password and more.

- a Click on the Printer button to establish print queues for the printers on the LANpress MP print server.

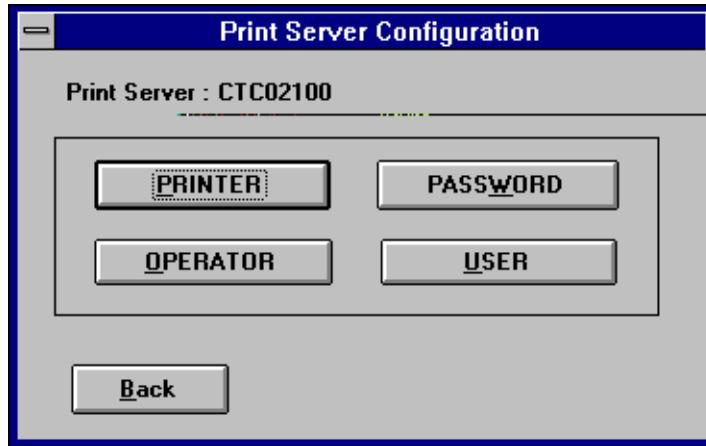


Figure 10 Print Server Configuration

- b Enter a name for each LANpress MP print server printer port that you attach at printer to. Click on Next.

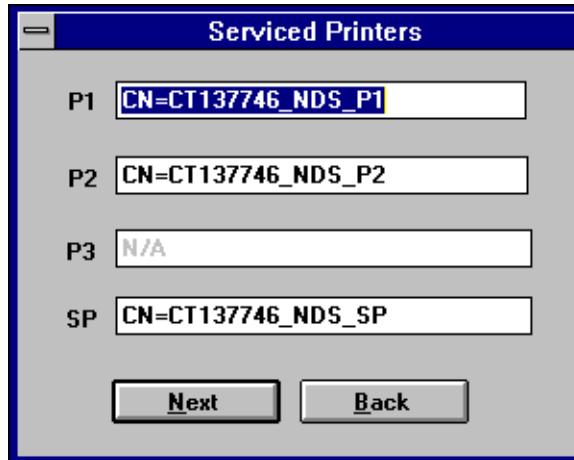


Figure 11 Serviced Printers

- c Click on the radio button of the printer port you want to establish print queues for. Click on See List.

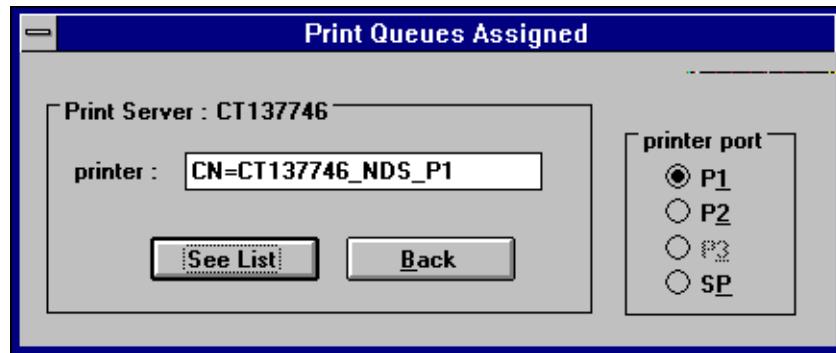


Figure 12 Print Queues Assigned

- e Click on the Browser button and select a context where the print queue is to reside.

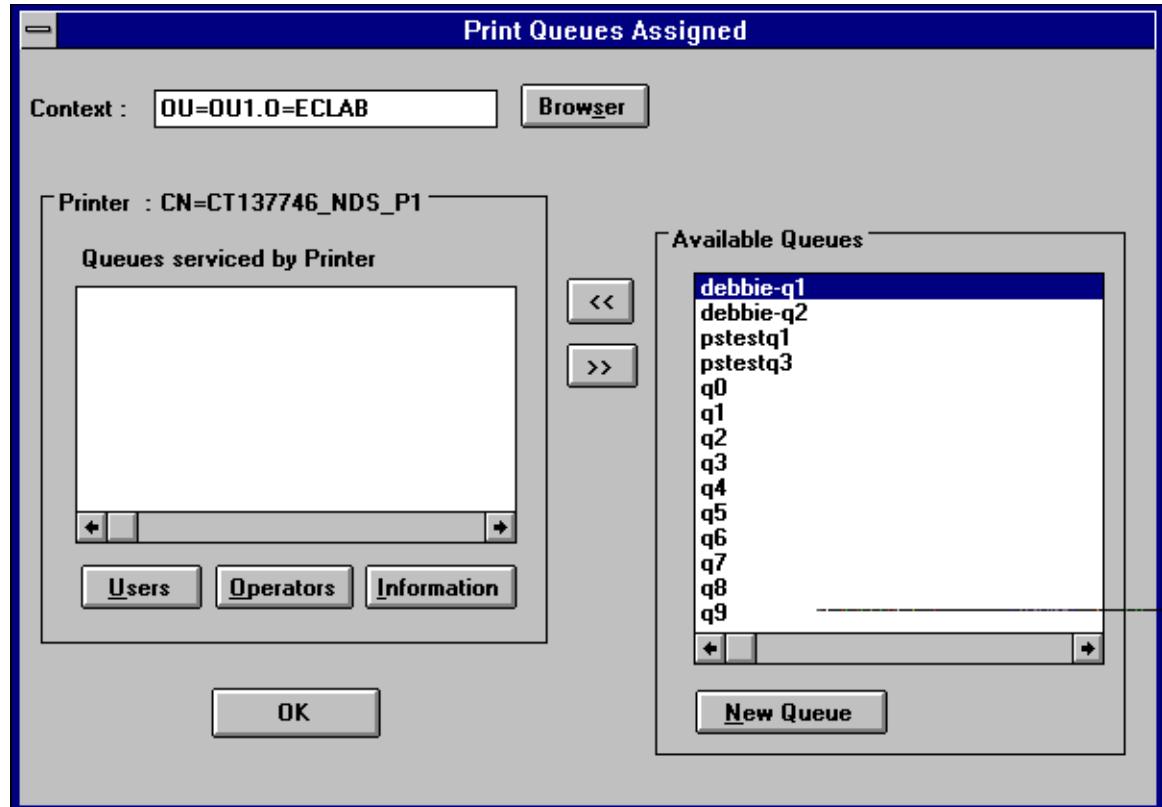


Figure 13 Print Queue Assignment

f A list of the print queues found in the context you select is displayed in the Available Queue window. Select a print queue you want the printer port to serve and click on the forward arrow button to place it in the Queues serviced by Printer list. Repeat this step for all of the print queues you want the printer port to service. If you want to create a new print queue in the current context, click on the New Queue button beneath the Available Queue window.

If you want to create a new queue, click on the New Queue { XE "New Queue" \i } button. Assign the new queue a name, assign it to a NetWare volume (click on the Volume Browser to locate the volume where you want to store the queue), and assign it a priority level. Click on OK.

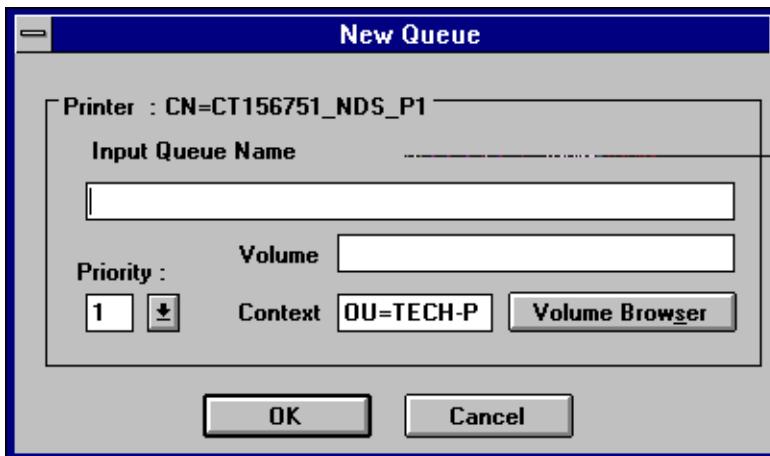


Figure 14 New Queue Dialogue Box

If you want to assign access privilege to the printer port, click on the User or Operator button. Access controls must be preset in NetWare.

Click on OK when you are done.

h Select the next port you want to assign print queues to. If there are no more ports, click on Back.

i If you want to assign a Novell password for the LANpress MP print server, click on the Password button. If you want to assign access controls for the print server, click on the User or the Operator button. Access parameters must be preset in NetWare. Click Back when you are done.

j Click on Save to Device. This will cause the program to save your changes on the LANpress MP print server non-volatile memory and in NetWare.

- k** Click on OK to confirm that you want to save, and, later, to acknowledge the save is successful.
- l** Click on Back to return to the main menu.

B If you have selected NDS Remote Printer:

- 1** Find the Tree name text box. Click on the arrow and select the tree you want to use for the print server port.

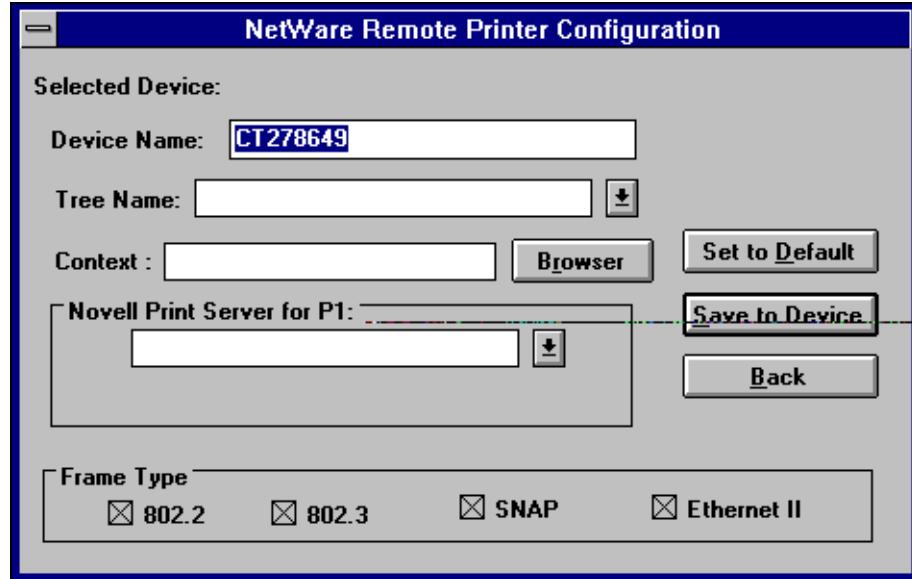


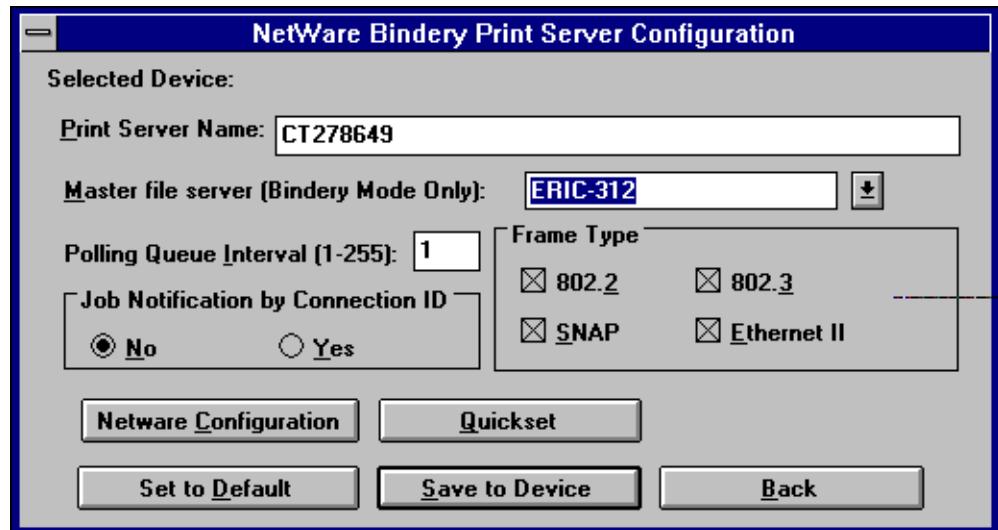
Figure 15 NetWare Remote Printer Configuration

- 2** Click on the Context text box's Browse button. Select the context you want to use.
- 3** The software automatically detects existing Novell print servers your LANpress MP print serve can serve. Parallel ports { XE "Parallel ports:Px" \i } are designated as Px and the serial port { XE "serial port:SP" \i } is designated as SP. Go to a port text box for which you have a printer connected to and click on the arrow button. Select a NetWare print server you want the printer attached to the LANpress MP to serve.

Important. MPADMIN does not configure Novell print servers. You must use PCONSOLE or NWADMIN to configure Novell print servers before you can print to the port you select.

- 4** Select the Ethernet Frame Types the LANpress MP will use.
- 5** Click on Save to Device to save the configuration.

C If you have selected Bindery Print Server:



Note. The unit's serial number is used as the default Print Server Name. This name is used to identify the print server on the network. You can change the name in the Print Server Name text box.

- 1 In the Master file server text box, click on the arrow and select the server you want to use as the master file server for the LANpress MP print server.
- 2 Set the Polling Queue Interval. This is the frequency, in seconds, that the LANpress MP print server polls the print queues for new jobs.
- 3 Set the Job Notification parameter. Job notification causes the print server to notify users on the NetWare notification list that their jobs are done. Select Yes to enable this feature or No to disable this feature.
- 4 Select the Ethernet Frame Types the LANpress MP print server will use to communicate with other devices on the network.

Note. The workstation that you are using to configure the LANpress must use an Ethernet Frame Type that you choose for the workstation to communicate with the LANpress server after the configuration is saved.

- 5 To configure the print queues the unit will use, click on Quickset or NetWare Configuration. Quickset is an express configuration that automatically creates print queues for each LANpress MP print server port. NetWare Configuration allows you to use existing print queue or create new print queues.
 - a If you chose Quickset:
 - 1 Select a server to create the print queues on.
 - 2 Printer names and queue names are provided for each LANpress MP port. You can change the queue name.

- 3 Click on the Setup button to configure the print server and NetWare.
- b If you choose NetWare Configuration:

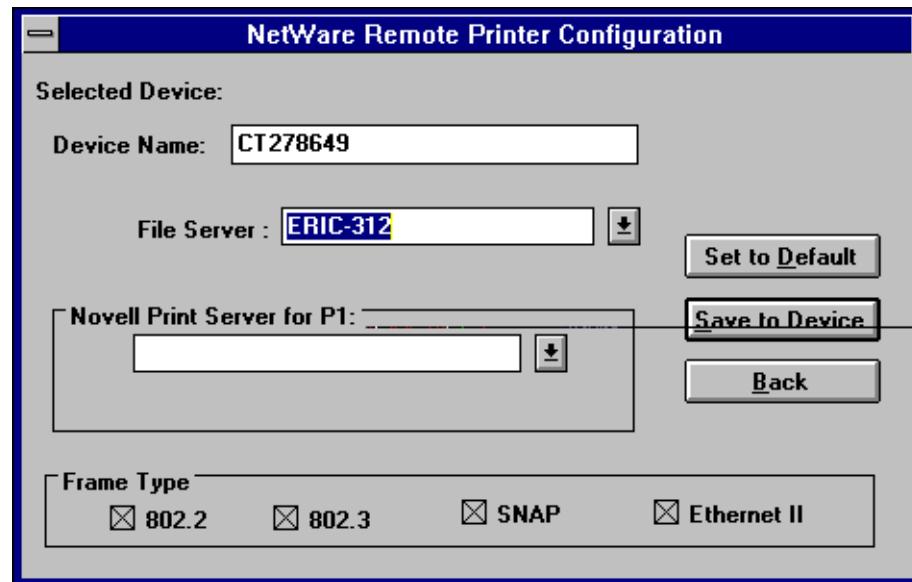
 - 1 Select the servers you want to print using the LANpress MP print server. Click on Next.
 - 2 Click on the Printer button.
 - 3 Enter a name for each printer port on your LANpress MP print server that you have a printer attached to. Click on Next.
 - 4 Click on the radio button of the printer port you want to establish print queues for. Click on See List.
 - 5 Double-click on any existing queue in the Available Queue list that you want to use the printer to add it to the Queue served by printer list.

If you want to create a new queue, click on the New Queue button, and assign the new queue a name and priority level. Click on OK.

If you want to apply access controls for the port, click on User or Operator.

When you have completed configuring the queues for this printer port click OK to return to the Print Queues Assigned dialog box. Select the next print port you want to configure. If you are done.
 - 6 Click on Back until you return to the Print Server Configuration dialog box. If you want to assign access controls to the printer port, click on the User or Operator button. If you want to assign a password to the printer port, click on Password. If you do not want to add any other parameters, click on Back.
 - 7 Click on Back until you reach the NetWare Bindery Print Server dialog box. Click on the Save to Device button. This will cause the program to save the parameters on the LANpress MP print server non-volatile memory and in NetWare.
 - 10 Click on OK to confirm that you want to save, and, later, to acknowledge the save is successful.
 - 11 Click on Back to return to the main menu.

D If you have selected Bindery Remote Printer:



Note. The device name { XE "device name" li } is the name used to identify the LANpress MP print server on the network. The factory default name is the serial number. You can change the name.

- 1 Go to the File server text box and click on the arrow. Select the file server you want to use to print to the LANpress MP print server.
- 2 Locate the Novell Print Server text boxes. There is one box for each printer port your LANpress MP printer has. The printer ports are designated as Px for the parallel ports and SP for the serial port. Click on the arrow button and select the Novell print server you want the LANpress MP printer port to serve.

Important. MPADMIN does not configure Novell print servers. You must use PCONSOLE or NWADMIN to configure Novell print servers before you can print to the port you select.

- 3 Select the Ethernet Frame Types the LANpress MP will use to communicate on the network.
- 4 Click on Save to Device to save the configuration.

Configuring the LANpress MP Print Server using DOS Utilities

In order to use the LANpress MP print server with NetWare, you must establish print queues on the network and link them to the printers attached to the LANpress MP print server. NetWare uses print queues as a repository where user print jobs are sent. A print server assigned to the queue manages printing by taking the jobs from the queue and sending them to the printer when the printer is ready. You must establish print queues and assign print servers and printers in the NetWare software. The configuration must be duplicated in the LANpress MP print server non-volatile memory. In DOS, NetWare and the LANpress MP print server are configured separately.

You can configure the LANpress MP print server as a print server or as a remote printer. As a print server, the LANpress MP print server actively polls the print queues and send jobs to the printers. As a remote printer, the LANpress MP print server serves as a passive network node with printers attached. Other NetWare print servers poll the queues and manage the printing. The LANpress MP print server can be configured to serve up to 56 print queues distributed among up to 16 print servers.

PConsole is the NetWare DOS utility you can use to create the printer objects necessary for NetWare printing. This manual provides a brief description of creating NetWare printer objects in PConsole in NetWare 4.x and NetWare 2.2 and 3.x. For more comprehensive instruction, refer to your NetWare documentation.

MPCONFIG is the LANpress MP print server's DOS utility. It allows you to configure the LANpress MP print server's non-volatile memory with the parameters you used to configure the NetWare software, and, thus, link the print server with the network. MPCONFIG is located on the LANpress MP Administration Utilities diskette in the DOS directory. You can copy the directory to your hard drive or you can use the diskette to configure the print server.

Using MPCONFIG

MPCONFIG allows you to access and modify the configuration table stored in the LANpress MP print server's non-volatile memory. You can assign the LANpress MP print server NetWare print servers to print for, set the network protocol parameters the unit will use, configure logical ports, set the serial port configuration and more. To invoke MPCONFIG:

- 1 Log onto a file server with supervisory privilege.
- 2 Insert the diskette in the floppy drive.
- 3 Go to the DOS prompt for the floppy drive.
- 4 Type:

cd dos

Press Enter.

5 Type:

mpconfig

Press Enter.

6 Select the serial number of the LANpress MP print server you want to configure.

MPCONFIG presents a menu list in the manner of PCONSOLE. Use the arrow keys to navigate to the option you want and press Enter to select the option.

Print Server Configuration in NetWare 4.x

{ XE "NetWare 4.x:print server installation under" }{ XE "Installation:as NetWare 4.x, print server" }This section tells you how to use the Quick Setup option in PCONSOLE to create a new print queue for a printer attached to the LANpress MP print server in NetWare 4.x. Write down the names you assign for reference when you configure the LANpress MP print server. To configure NetWare 4.x:

- 1 Log onto NetWare with administrator privilege.
- 2 Start PCONSOLE.
- 3 Open the NDS the Context that you want to install the LANpress MP print server in. The current Context NDS is displayed in the upper left hand corner of the PCONSOLE banner. To change the Context, select Change Context in the Available Options menu. Browse the menu and select the Context that you want to install the LANpress MP in. Refer to your NetWare documentation if you need assistance setting the Contents.

Write down the context name for reference. You will need this information when you configure the LANpress MP print server.

- 4 Select Quick Setup.
- 5 The Print Services Quick Setup dialog box allows you to configure NetWare to use the LANpress MP print server. This procedure instructs you in setting the basic parameters most NetWare environments will use. The parameters you finally set and how you set them depends on your NetWare environment. If you need additional assistance configuring NetWare to use the LANpress MP print server, refer to your NetWare documentation.
 - A Press Enter to select Print server and enter the name you want to use to identify the LANpress MP print server on the network. The print server must be configured with this name also. The factory default name is the serial number.

Important: Do not use more than 19 characters in the LANpress MP print server name. { XE "Print server name (NetWare):limitations regarding" }The LANpress does not support names longer than 19 characters.

Do not use spaces in the print server name. The LANpress MP print server does not support spaces in its name. You can use the dash and the underscore. However, you can use spaces in the names of the print queues you create for the LANpress MP print server and for printers attached to the LANpress print server.

- B** Select New Printer and press Enter. Enter a name for the printer attached to the LANpress MP print server port that will serve this print queue.
- C** Select New Print Queue and press Enter. Enter a name for a new print queue.
- D** The print queue you are creating must be set up in a pre-established volume. If you want to use a different print queue volume than the one displayed, select Print Queue Volume and press enter. Enter the name of the volume you want or press Insert to select an existing volume.
- E** Select Port and press Enter. Select the LANpress MP print server print port the printer is attached to.
- F** Press **<F10>** to save the configuration and to exit the Print Services Quick Setup dialog box.

After a moment, PCONSOLE returns to the Available Options menu. You can use the steps above to configure another print queue or you can use the other commands to configure the LANpress MP print server or other printers attached to the LANpress MP print server ports to use other print queues.

Configuring the LANpress MP Print Server

{ XE "MPCONFIG, using:to configure LANpress MP as NetWare 4.x print server" } To use the LANpress MP print server, you must configure its non-volatile memory with information from the NetWare setup. You can use MPADMIN to configure the LANpress MP the print server's non-volatile memory. MPADMIN is a DOS utility located in the DOS directory of the LANpress MP Administration Utilities diskette. You can invoke MPADMIN from the diskette or from your hard drive. This instruction tells you how to use MPCONFIG to LANpress MP print server.

MPCONFIG presents a menu list in the manner of PCONSOLE. Use the arrow keys to navigate to the option you want and press Enter to select the option. For more information on using MPCONFIG see Chapter 5.

MPCONFIG allows you to access and modify the configuration table stored in the LANpress MP print server's non-volatile memory. You can assign the LANpress MP print server NetWare print servers to print for, set the network protocol parameters the unit will use, configure logical ports, set the serial port configuration and more. To invoke MPCONFIG:

- 1** Log onto a file server with supervisory privilege.
- 2** Locate the LANpress MP Administration Utilities diskette and insert it into the floppy drive.

3 Go to the DOS prompt for the floppy drive.

4 Type:

cd dos

Press Enter.

5 Type:

mpconfig

Press Enter.

6 Select the serial number, the factory default device name, of the LANpress MP print server you want to configure. Press Enter.

7 Choose Set to NetWare Print Server Mode and press <Enter>.

8 Enter the requested configuration information exactly as you recorded it in NetWare. When you are done, select Execute Setup to save the configuration information and press <Enter>. The program prompts you to confirm, and then writes the configuration information to the LANpress MP's non-volatile memory.

9 Press <Esc> until the Exit Utility form appears. Choose Yes and press <Enter>.

Manual Print Server Setup and NetWare 2.x and 3.x

{ XE "NetWare 2.x,3.x:print server installation under" }{ XE "Installation:as NetWare 2.x, 3.x print server" }After performing the LANpress MP's hardware as described in Chapter 0, follow the procedures below to set up the LANpress MP under NetWare 2.x or 3.x.

Create Queues

{ XE "Print queues, adding or creating:under NetWare 2.x/3.x" }This instruction describes how to create new print queues. If you are going to use existing print queues to configure the LANpress MP print server, skip this section. To create a new print queue:

1 Log onto a NetWare file server you want to serve as the master file server, MFS, for the LANpress MP print server. You must login with supervisor privilege.

Important: { XE "File server name:length limitation" }When installing the LANpress MP print server as a print server, the network server you use as the LANpress MP's master file server must have a name that is no longer than 19 characters. If the file server you choose has a longer name, you must either choose a different master file server or shorten the file server's name.

2 Start PCONSOLE.

- 3 Select Print Queue Information and press <Enter>.
- 4 Press <Insert> to add a new queue to the list. The New Print Queue Name form appears.
- 5 Enter a name for the print queue and press <Enter>.

If you want to create addition print queues, repeat steps 3 and 4.

Adding a Print Server

Create a print server in the NetWare software for the LANpress MP print server. To create the print server:

- 1 Go to PCONSOLE's Main Menu and select Print Server Information.
- 2 Add a name for the LANpress MP print server to the Print Server list. To add the name, press <Insert>. Enter the new name in the New Print Server Name text box.

Important: Do not use more than 19 characters in the LANpress MP's print server name. The LANpress MP does not support names longer than 19 characters. { XE "Print server name (NetWare):limitations regarding" }

- 3 Enter a name for the print server and press <Enter>.

The new print server name appears on the Print Servers List.

Assign Printers

{ XE "Printers, adding:for NetWare 2.x/3.x print server" }Perform the procedure below to associate NetWare printer objects with the printers connected to the LANpress MP's ports. Do this when installing a new LANpress print server, or when connecting a new printer to the LANpress print server to service NetWare print queues.

Follow the procedure below to assign printer types to the print server's ports:

- 1 Go to the Print Servers list, select the print server you just added, and press <Enter>. The Print Server Information menu appears.
- 2 Select Print Server Configuration and press <Enter>. The Print Server Configuration menu appears.
- 3 Select Printer Configuration and press <Enter>. The Configured Printers list appears.

4 Choose a LANpress MP physical port or logical port from the table below, and select the corresponding printer from PCONSOLE's Configured Printers list. Then press <Enter>. The Printer Configuration form appears.

To use LANpress MP's:	Choose Printer:	Notes
PARALLEL1 port	Printer 0	All LANpress MP models
PARALLEL2 port	Printer 1	2+1 and 3+1 models only
SERIAL port, 2+1 models PARALLEL3 port, 3+1 models	Printer 2	2+1 and 3+1 models only
SERIAL port, 3+1 models	Printer 3	3+1 models only
Logical port L1	Printer 8	Default Port for all logical ports is PARALLEL1; configurable to any physical port using MPCONFIG. Also configurable for pre-strings, post-strings, and linefeed-to- linefeed- plus-carriage return conversion. { XE "Logical ports:selecting under NetWare" }
Logical port L2	Printer 9	
Logical port L3	Printer 10	
Logical port L4	Printer 11	
Logical port L5	Printer 12	
Logical port L6	Printer 13	
Logical port L7	Printer 14	
Logical port L8	Printer 15	

Note: LANpress MP's logical ports can be used to add pre-strings and post-strings, and can be configured to print to any of the print server's physical ports. For more information about LANpress' logical ports, see page 19.

5 Press <Esc> to accept the Printer Configuration form's default settings.

6 The Save Changes form appears. Choose **Yes**.

7 If the print server is a LANpress MP 2+1 unit, repeat steps 4 through 6 once each for Printer 1 and Printer 2.

Associate Printers with Print Queues

{ XE "Printers, associating with print queues:for NetWare 2.x/3.x print server"
}Follow the procedure below to associate at least one print queue for each printer connected to the LANpress MP:

- 1 From the Print Server Configuration menu, select Queues Serviced by Printer and press <Enter>. The Defined Printers list appears.
- 2 Select the printer you want to assign a print queue to and press <Enter>. A list of assigned queues appears.
- 3 Press <Insert> to add a queue to the list. The Available Queues list appears.

- 4 Select the queue that you want the printer to service and press <Enter>. The Priority form appears.
- 5 Enter a priority (or leave it at the default of 1) and press <Enter>. The Priority form disappears.
- 6 If you are connecting a printer to the LANpress MP's LPT2 port, repeat steps 2 through 5 to assign at least one queue to Printer 1.
- 7 Press <Esc> until the Exit PCONSOLE form appears. Then choose Yes and press <Enter>.

Using MPCONFIG to Update the LANpress MP's Configuration

{ XE "MPCONFIG, using:to configure LANpress MP as NetWare 2.x/3.x print server" }To use the LANpress MP print server, you must configure its non-volatile memory with information from the NetWare setup. You can use MPADMIN to configure the LANpress MP the print server's non-volatile memory. MPADMIN is a DOS utility located in the DOS directory of the LANpress MP Administration Utilities diskette. You can invoke MPADMIN from the diskette or from your hard drive. This instruction tells you how to use MPCONFIG to LANpress MP print server.

- 1 Start MPCONFIG.
- 2 Use the arrow keys to select the serial number of the LANpress MP print server you want to configure. Press <Enter>.
- 3 Choose Set to NetWare Print Server Mode and press <Enter>.
- 4 Configure the LANpress MP as follows:
 - A In the Print Server Name field, enter the name of the print server you created in NetWare that you want to use the LANpress MP print server.
 - B Select Master File Server and press <Enter>.
 - C Select a file server to be the LANpress MP's master file server and press <Enter>.
 - D Select the Execute Setup field and press <Enter>. The program prompts you to confirm and then writes the configuration information to the LANpress MP print server's non-volatile RAM.
- 5 Press <Esc> until the Exit Utility form appears. Choose Yes and press <Enter>.

Manual Remote Printer Setup for NetWare 4.x

{ XE "NetWare 4.x:remote printer installation under" }{ XE "Installation:as NetWare 4.x remote printer" }You can use the LANpress MP print server as a remote printer for other NetWare print servers. In this role the LANpress MP print server becomes a passive network node, and the NetWare print server manages the print operations. You must configure the LANpress MP print server as a remote printer and configure its printer ports for use by the NetWare print servers. This instruction tells you how to setup NetWare 4.x to access the LANpress MP printer ports and how to configure the LANpress MP.

Add Printer Objects { XE "Printers, adding:for NetWare 4.x remote printer" }

- 1 Open PCONSOLE and change to the context where the network print server you want to use resides.
- 2 Select the network print server and press <Enter>.
- 3 Select Printers and press <Enter>.
- 4 Press <Insert> to create printer objects for the LANpress MP. This opens the Object-Class list.
- 5 Navigate the Object-Class list to the context where you want to install a new printer object. This should be the context where the majority of the printer's users reside.
- 6 Press <Insert> to add a new printer.
- 7 Enter a printer name for each LANpress MP port that you connect a printer to. The name you use must specify the physical port on the LANpress MP print server. The format the name must have is:

name_Px

or

name_SP

where

- **name** is the name used to identify the LANpress MP print server on the network
- **Px** is the parallel port the printer is connected to (P1, P2, P3)
- **SP** is the serial port

Write down the names and the ports they correspond to. You must use these names when you configure the LANpress MP printer ports.

Important: Do not use more than 19 characters in the entire printer name. { XE "Printer names (under NetWare):limitations regarding" }The LANpress does not support names longer than 19 characters.

Do not use spaces in the printer name. The LANpress MP does not support spaces in the name.

Note: We recommend that you use the LANpress MP's serial number as *LANpress_name* portion of the printer name. This is because the serial number is the factory default LANpress name.

- 8 Locate the new printer object in the Object-Class list. Select the new printer and press <Enter>.
- 9 The new printer object appears in the print server's Serviced Printers list. Press <Enter> again to configure the new printer object.
- 10 Make sure that the Printer Type and Configuration values in the Printer Configuration form are correct for the LANpress MP printer port.
 - A Make sure the Locate Printer Type value matches the LANpress MP printer port. If necessary, press <Enter> and select the correct printer type.
 - B In the Configuration form, select the port on the LANpress MP the printer object is connected to, and set Location to Manual load.
 - C Select print queue assigned and press <Enter> to set the print queue you want to use.
 - 1 Press <Insert>.
 - 2 Go to the context where most of the print server's users reside to select or create a print queue.
 - 3 Select an existing print queue or press <Insert> to create a print queue. If you create a print queue, you must select the new print queue name to assign it to the printer object.
 - 4 Press Esc when you are done.

All other values must be set in accordance with the environment. Repeat steps 8, 9 and 10 for each new printer object.

When you have completed configuring a printer object, press Esc and save the changes. When you have completed the setup, exit PCONSOLE.

Configuring the LANpress MP for Remote Printer Operation

{ XE "MPCONFIG, using:to configure LANpress MP as NetWare 4.x remote printer"
}You can use the DSO utility MPCONFIG to configure the LANpress MP print server for remote printer operation. MPCONFIG is located in the DOS directory of the LANpress MP Administration Utilities diskette. You can invoke MPADMIN from the diskette or from your hard drive. This instruction tells you how to use MPCONFIG to LANpress MP print server.

- 1 At the DOS prompt, go to the directory where MPCONFIG is located. Type:

mpconfig.exe

- 2 A list of the LANpress MP print server serial numbers that are connected to the network appears. Select the serial number the LANpress MP print server you want to use for remote printing. Press <Enter>.
- 3 Choose Set to NetWare Remote Printer Mode and press <Enter>.
- 4 In the dialogue box that appears:
 - A Enter a Device Name. This is the name the LANpress MP print server uses to identify itself on the network and must be the same name used to configure NetWare. The factory default name is the unit's serial number.
 - B Enter a Novell print server name for each LANpress MP printer port. The name must be the same used to configure NetWare.
 - C If you are using the serial port, press <Enter> to set the parameters for the serial printer.
 - D Press <Enter> to select the Frame Types the network uses.
 - E Select the Execute Setup and press <Enter> to save this configuration. The program prompts you to confirm before saving.
- 5 Press <Esc> until the Exit Utility form appears. Then choose **Yes** and press <Enter>.

Restart the Print Server

After you configure the LANpress MP you must restart the unit. This instruction describes how to restart the print. This procedure assumes that the print server is currently running and that it is a PSERVER NLM on a NetWare 4.x file server.

- 1 Go to the console of the file server where the print server NLM is running.
- 2 Press <Alt><Esc> until you get to the Print Server NLM Administration screen.
- 3 Press <Esc> to halt the print server NLM. NetWare prompts you Unload Print Server?
- 4 Choose **Yes** and press <Enter>. NetWare unloads the NLM.
- 5 At the console's command-line prompt, enter:

load pserver

The Enter Print Server Name form appears.

- 6 Press <Insert> to bring up the Contents of Current Context list.
- 7 Select the context that contains the print server.
- 8 Select the print server from the list and press <Enter>. NetWare then starts the selected print server.

Remote Printer Setup, NetWare 2.x, 3.x

{ XE "NetWare 2.x, 3.x:remote printer installation under" }{ XE "Installation:as NetWare 2.x, 3.x remote printer" } You can use the LANpress MP print server as a remote printer for other NetWare print servers. In this role the LANpress MP print server becomes a passive network node, and the NetWare print server manages the print operations. You must configure the LANpress MP print server as a remote printer and configure its printer ports for use by the NetWare print servers. This instruction tells you how to setup NetWare 2.x or 3.x to access the LANpress MP printer ports and how to configure the LANpress MP..

Create Queues

{ XE "Print queues, adding or creating:under NetWare 2.x/3.x" } If you are going to set up the LANpress MP remote printer to use print queues that already exist, skip this section. Otherwise, perform the procedure below to create new NetWare print queue objects for the LANpress MP. Do this when installing a new LANpress remote printer, or when adding a new queue to be serviced by an existing LANpress MP's printers.

- 1 Login to a NetWare file server as SUPERVISOR, or as a user with SUPERVISOR security equivalence. If there is more than one file server on your network, log into the one you want to be the LANpress MP's master file server.
- Important:** { XE "Print server name:length limitation" } When installed as a remote printer, LANpress MP cannot attach to NetWare print servers that have names greater than 19 characters in length. If your NetWare print servers have longer names, you must shorten their names before you can install the LANpress MP under them.
- 2 Start NetWare's PCONSOLE program.
- 3 Select Print Queue Information and press <Enter>. The Print Queues list appears.
- 4 Press <Insert> key to add a new queue to the list. The New Print Queue Name form appears.
- 5 Type a queue name, and press <Enter>. The New Print Queue Name form disappears.
- 6 If you want, repeat steps 3 and 4 to create additional queues.

Assign Printers

{ XE "Printers, adding:for NetWare 2.x/3.x remote printer" } Perform the procedure below to associate NetWare printer objects with the printers connected to the LANpress MP's ports. Do this when installing a new LANpress remote printer, or when connecting a new printer to the LANpress remote printer to service NetWare print queues.

Follow the procedure below to assign printer types to the print server's ports:

- 1 Go to the Print Servers list, select the NetWare print server you want to install the printer under, and press <Enter>. The Print Server Information menu appears.
- 2 Select Print Server Configuration and press <Enter>. The Print Server Configuration menu appears.
- 3 Select Printer Configuration and press <Enter>. The Configured Printers list appears.
- 4 For each of the LANpress MP's ports to which you are connecting a printer, select one of the Not Installed printers and press <Enter>. A Printer Configuration form appears.
- 5 Configure each of the attached printers as follows:
 - A Select the Name field and enter the name shown in the appropriate box of the table above. For the *LANpress_name* portion of the printer name, we recommend that you enter the unit's serial number, since that is the unit's factory default device name. Whatever you use for *LANpress_name*, you must enter the exact same name in when configuring LANpress MP in Part IV of this procedure.

For Port:	Enter Name:	Select Type:
PARALLEL1	<i>LANpress_name</i>	Remote Parallel, LPT1
PARALLEL2	<i>LANpress_name_P2</i>	Remote Parallel, LPT2
PARALLEL3	<i>LANpress_name_P3</i>	Remote Parallel, LPT3
SERIAL	<i>LANpress_name_SP</i>	Remote Serial, COM1

Important: Do not use more than 19 characters in the entire printer name. { XE "Printer names (NetWare remote printer mode):limitations regarding" }The LANpress MP does not support names longer than 19 characters.

Note: We recommend that you use the LANpress MP's serial number as *LANpress_name* portion of the printer name. This is because the serial number is the factory default LANpress name.

- B Select the Type field and press <Enter>. The Printer Type list appears.
- C Select the printer type shown in the appropriate box of the table above, and press <Enter>.
- B Press <Esc>. The Save Changes form appears.
- E Select **Yes** and press <Enter>.
- 6 After you have configured all of the printers attached to the LANpress MP, press the <Esc> key to return to the Print Server Configuration menu.

Associate Printers with Print Queues

{ XE "Printers, associating with print queues:for NetWare 2.x/3.x remote printer"
 }Follow the procedure below to associate at least one print queue for each printer connected to the LANpress MP:

- 1 From the Print Server Configuration menu, select Queues Serviced by Printer. The Defined Printers list appears.
- 2 Select the printer you want to assign a print queue to and press <Enter>. A list of assigned queues appears.
- 3 Press <Insert> to add a queue to the list. The Available Queues list appears.
- 4 Select the queue that you want the printer to service and press <Enter>. The Priority form appears.
- 5 Enter a priority (or leave it at the default of 1) and press <Enter>. The Priority form disappears.
- 6 Press <Esc> until the Exit PCONSOLE form appears. Then choose **Yes** and press <Enter>.

Using MPCONFIG to Update the LANpress MP's Configuration

To use the LANpress MP print server, you must configure its non-volatile memory with information from the NetWare setup. You can use MPADMIN to configure the LANpress MP the print server's non-volatile memory. MPADMIN is a DOS utility located in the DOS directory of the LANpress MP Administration Utilities diskette. You can invoke MPADMIN from the diskette or from your hard drive. This instruction tells you how to use MPCONFIG to LANpress MP print server.

- 1 Start MPCONFIG. The Active Device list appears.
- 2 In the Active Device list's Serial Number column, find the serial number you wrote down during the hardware Installation. Select that entry and press <Enter>. The Available Options list appears.
- 3 Choose Set to NetWare Remote Printer Mode and press <Enter>. A list of configuration items appears.
- 4 Configure the LANpress MP as follows:
 - A Set the Device Name entry so that it matches the *LANpress_name* you used when assigning printers in Part II of this procedure. The factory default setting for the device name is the unit's serial number.

Important: The Device Name must match exactly the *LANpress_name* assigned in Part III, Step 4, or the LANpress MP won't work.
 - B For each printer port, enter the name of the NetWare print server for which the attached printer serves queues.

C Select the Execute Setup field and press <Enter>. The program prompts you to confirm, and then writes the configuration information to the LANpress MP's non-volatile RAM.

Press <Esc> until the Exit Utility form appears. Then choose Yes and press <Enter>.

NetWare Troubleshooting

{ XE "Troubleshooting:under NetWare" }This section describes possible solutions to some of the most common problems that occur during LANpress MP installation and use.

The LANpress MP Does Not Appear in MPADMIN or MPCONFIG

This happens when the LANpress MP print server cannot communicate with the workstation. Try the following:

- 1 Make sure that the unit is powered-on.
- 2 Make sure that the unit's network cable is securely connected, and that there is only one network cable connected.
- 3 Wait for a minute or so, and then press <F2> to refresh the Active Device List display. The NetWare file server may not have recorded the dynamic information of your LANpress MP.
- 4 Make sure that the Ethernet Frame Type your workstation uses is enabled on the LANpress MP print server. Move the LANpress MP to the same network segment as your PC and run MPCONFIG again. If this causes the unit to appear, use MPCONFIG to check that the proper Ethernet Frame Types are enabled.

The LANpress MP Does not Log onto the File Server

- 1 Check the LANpress MP print server's configuration.
 - A Open MPADMIN or MPCONFIG to view the configuration settings. In MPADMIN click on the first toolbar icon, Device Information. In MPCONFIG select the Display Status option and select Device Information.
 - B Locate NetWare Info in the listing.
 - C If your network is NDS and the LANpress MP print server is supposed to be an active print server, make sure that Remote Printer Mode Status is configured as N/A.

If the LANpress MP print server is supposed to serve as a remote print server, make sure that Printer Mode Status is configured as N/A.

If your network is Bindery, make sure the master file server matches that shown in the NetWare configuration.

- 2 Make sure that the length of the LANpress MP's master file server's name is 19 characters or less. The LANpress MP print server does not support file server names that are longer than 19 characters.
- 3 If you are using the LANpress MP under UNIX, use tftp to check if its NetWare Protocol Stack (item 0011) has been disabled. See *Changing LANpress MP's Configuration Using tftpon* page 106 for more information.
- 4 Invoke your NetWare administration tool, and check the status of the LANpress MP print server on the file server it is not logging onto. Make any necessary corrections.

The LANpress MP Does Not Attach to the Remote Print Server

- 1 Check the LANpress MP print server's configuration.
 - A Open MPADMIN or MPCONFIG to view the configuration settings. In MPADMIN click on the first toolbar icon, Device Information. In MPCONFIG select the Display Status option and select Device Information.
 - B Locate NetWare Info in the listing.
 - C Make sure that Printer Mode Status is configured as N/A.
- 2 Make sure that the length of the print server's name is 19 characters or less. The LANpress MP print server does not support file server names that are longer than 19 characters
- 3 If you are also using the LANpress MP under UNIX, use tftp to output the unit's configuration table. Make sure that NetWare Protocol Stack (item 0011) has been disabled. See *Changing LANpress MP's Configuration Using tftp* on page 106 for more information.

The LANpress MP Does Not Print Jobs Sent to the Print Queue

- 1 Make sure that the printer attached to the LANpress MP is switched on, is on-line, and has paper.
- 2 Use your NetWare administration tool to check the current status of the queue.
- 3 Make sure that the printer number corresponds to the LANpress MP print server port you want to print to.
- 4 If you are using logical ports, use a LANpress MP administration tool to make sure that the logical ports are properly configured.
- 5 If the queue was added using PCONSOLE's Print Server Configuration menu, try rebooting the print server. Queues added via Print Server Configuration are not serviced until after the print server is rebooted. Make sure that the print server has been rebooted since the queue was added.

If you don't want to reboot the print server after adding a queue, add the queue using PCONSOLE's Print Server Status/Control menu. Queues added that way go into effect immediately. However, such queues are dropped from the list of serviced queues whenever the print server is rebooted.

- 6 If the queue was added under PCONSOLE's Print Server Status/Control, use PCONSOLE to check whether the queue is still on the LANpress MP's list of serviced queues:

Run PCONSOLE, select Print Server Information, select Print Server Configuration, select Queues Serviced by Printers, select your desired printer and check if the queue is on the list. If not, insert the queue into the list by pressing <Insert> key and select the queue. Then reset the LANpress MP to service the new queue.

- 7 Make sure that the total number of queues to be serviced is less than 56. If there are more than 56 queues assigned, remove some unused queues.

Avoiding Reboot with Print Server Status/Control { XE "Reset LANpress MP:avoiding" }

{ XE "Print Server Status/Control" }{ XE "P_CONSOLE:Print Server Configuration" }{ XE "Temporary configuration" }{ XE "P_CONSOLE:Print Server Status/Control" }If rebooting LANpress MP after adding or changing print queues is inconvenient, you can use PCONSOLE's Print Server Status/Control to create temporary changes, and use PCONSOLE's Print Server Configuration to enter the same changes into the file server's permanent database. Since the temporary changes go into effect immediately, you can use your new configuration without rebooting the LANpress MP. When LANpress MP is rebooted, the temporary changes are erased and the permanent changes go into effect.

I cannot edit any settings using PCONSOLE's Print Server Status/Control

Unless you are a print server operator, Print Server Status/Control is read-only. To assign print server operator status, log in with supervisor privilege. Invoke PCONSOLE, select Print Server Information, and select the print server name. Select Print Server Operators. Press <Insert>, and add your login name to the list of print server operators.

Jobs Split Into Two Parts

The time out setting in your Capture command may be too short. Try increasing the timeout value using CAPTURE's /TI= n option.

Garbled Print Output

Perform the following tests to find the source of the trouble:

Test 1: Compare Text and Graphics Printouts

If the text file prints correctly but the graphic file is garbled, specify /NT (no tabs) option for NPRINT or CAPTURE commands. If both print correctly, go on to step 3.

Test 2: See if the printer garbles a Diagnostic Report

- 1 Log onto the network as Admin, or Supervisor, or equivalent.
- 2 Start a LANpress MP administration utility.
- 3 Select the LANpress MP that you want to test and press <Enter>.
- 4 Select Print Diagnostic Report and press <Enter>.
- 5 Choose the port to which the printer in question is connected, and press <Enter>. A diagnostic report prints to the selected printer.
- 6 Examine the diagnostic report to see if it is garbled like your other printer output. If it is, check your printer or cable. If the diagnostic report is not garbled like your other output, the problem is probably with the setup of the LANpress MP.

Test 3: Connect the LANpress MP's printer to your workstation, and copy the queue's contents to the printer

- 1 Start PCONSOLE and use to temporarily disable spooling to the LANpress' queue, and to find out the queue's object ID:

For NetWare 2.x or 3.x:

- A Select:
 - Print Queue Information
[Choose the LANpress MP's queue]
 - Current Queue Status
- B Set Servers can service entries in queue to NO.
- C Press <Esc> and select Print Queue ID.
- D Record the queue's object ID.

For NetWare 4.x:

- A Select:
 - Print Queues
[Choose the LANpress MP's queue]
 - Status
- B Set Allow service by current print servers to NO.
- C Press <Esc> and select Information
- D Record the queue's object ID.
- 2 Now that the LANpress' queue servicing is disabled, locate one of the files that had previously printed garbled, and print it to the disabled queue.

- 3 Re-route network printing to local printing as follows:
 - A Disconnect the printer attached to the LANpress MP and connect it to one of your workstation's parallel ports.
 - B Change to the drive on the file server that contains the print queue.
 - C Use the CD command to change to the subdirectory of the NetWare system directory that contains the disabled queue. You can identify the queue by the object ID that you recorded previously.
 - D Use the COPY command with the /b switch to copy the queue's contents to your workstation's hard disk.
 - E Use the COPY command with the /b switch to copy the queue's contents from your workstation's hard disk to the printer attached to the workstation.
- 4 Disconnect the printer from your workstation's parallel port and reconnect it to the LANpress MP.
- 5 Start PCONSOLE and use it to re-enable spooling to the LANpress' queue as follows:

For NetWare 2.x or 3.x:

- A Select:
 - Print Queue Information
 - [Choose the LANpress MP's queue]
 - Current Queue Status
- B Set Servers can service entries in queue to Yes.

For NetWare 4.x:

- A Select:
 - Print Queues
 - [Choose the LANpress MP's queue]
 - Status
- B Set Allow service by current print servers to YES.
- C Compare the printout from your PC and with the printout from the LANpress MP print server.

If the printouts are the same, the problem may be caused by choosing an incorrect printer driver or the timeout setting in the CAPTURE command is too short.

If the resulting printouts are not the same, it may be your LANpress MP's problem. Call your Castelle dealer or distributor.

Chapter 5: Using the LANpress MP with Windows Workstations

The LANpress MP print servers provide support for Windows NT, Windows 95 and Windows 3.1.1 workstations that use the TCP/IP or NETBUEI transport protocols. The LANpress MP print server package includes print redirector { XE "print redirector" \i } software for the TCP/IP protocol and the NetBEUI protocol. The units also support LPR under Windows NT.

Printing with the LANpress MP print server for Windows workstations with these protocols is peer-to-peer{ XE "peer-to-peer" \i }. In peer-to-peer printing, the workstation sends its print jobs directly to the printer port. The LANpress MP redirector{ XE "LANpress MP redirector" \i } is provided to allow workstations to take advantage of this feature. The redirector software installs a device driver on the workstation that allows the user to create printers that access the LANpress MP print server's printer ports. This chapter describes:

- How to verify and enable the TCP/IP and NetBEUI transport protocols on a Windows workstations
- How to enable the TCP/IP and NetBEUI protocols on the LANpress MP print server
- How to configure the LANpress MP print server with a TCP/IP address
- How to install the LANpress MP Redirector on the workstation
- How to create LANpress MP printers on the workstation

Troubleshooting tips for Windows workstations are also provided at the end of the chapter.

Configuring the LANpress MP Print Server for the TCP/IP Environment

ENABLING THE TCP/IP TRANSPORT PROTOCOL on the Workstation

Before you install the LANpress MP redirector software, make sure that the TCP/IP transport protocol is enabled on your Windows 95 or Windows NT workstation. To check whether the TCP/IP protocol is enabled:

- 1 Go to and select the Control Panel.
- 2 Select Network.
- 3 Review the list of network software components and make sure TCP/IP protocol is listed. Add the TCP/IP protocol { XE "TCP/IP protocol" \i } if it is not listed. Refer to your Windows documentation for instructions on adding the protocol.

Configuring the LANpress MP with MPADMIN

The LANpress MP print server is a node { XE "node" \i } on the TCP/IP network that provides printing services. Windows NT and Windows 95 workstations that are to use printers attached to LANpress MP printer server must have TCP/IP protocol software installed and enabled to communicate with the print server. The protocol software is available on your Windows NT and Windows 95 diskettes or CD ROM disk. You can verify that the TCP/IP protocol is installed on the workstation using the Network folder in the Control Panel.

MPADMIN uses the IPX/SPX protocol { XE "IPX/SPX protocol" \i } to contact the LANpress MP print server. Your network does not have to support IPX/SPX to run MPADMIN. Nor is it necessary to have the MPADMIN workstation in the same segment as the LANpress MP print server to set the IP address. However, the MPADMIN workstation must have the IPX/SPX protocol installed and active. If you install MPADMIN on a Windows NT or Windows 95 workstation, be sure to enable the IPX/SPX compatible protocol.

Assigning an IP Address

Requirements:

- MPADMIN installed on the workstation
- IPX/SPX protocol installed and active on the workstation

To set the IP address using MPADMIN:

- 1 Locate the Castelle LANpress program group and select MPADMIN.
- 2 Select the LANpress print server you want to assign a IP address to.
- 3 Click on the TCP/IP icon or select TCP/IP in the Configuration pull down menu.

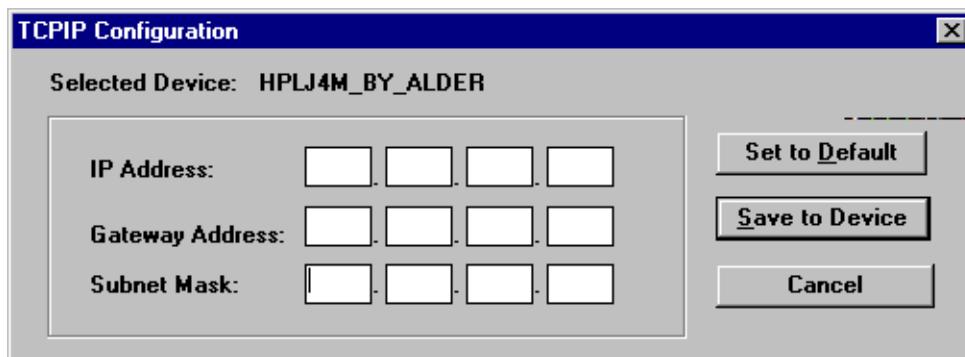


Figure 16 IP Address Dialogue Box

- A Enter the IP address { XE "IP address" \i } you want to use for the LANpress MP print server.
- B If the LANpress MP print server is to serve clients on other segments, it must go through a router { XE "router" \i } or gateway{ XE "gateway" \i }Enter the IP address of the gateway or router the LANpress MP will use.

- C Enter a subnet mask address { XE "subnet mask address" \i } if a gateway is used.
- D Click on the Save to Device button to write these parameters to the LANpress MP server.

Assigning the Print Server a Name

The Device Name listed in the Castelle Print Server Administration Utility is the name that is used to identify the selected LANpress MP print server on the network. The default name is the unit's serial number. To rename the unit:

- 1 Click on the Configuration pull down menu and select System.
- 2 In the Device Name: text box, enter the name you want to use to identify the print server on the network. Select Save to Device to save the change.

Configuring the Serial Port

You can use MPADMIN to configure the LANpress MP print server for a serial printer. Click on the serial port icon or open the Configuration pull down menu and select Serial Port. Click on the settings that apply to your serial printer. Click on Save to Device when you are done.

Installing the LANpress MP Print Redirector for the TCP/IP Protocol

The LANpress MP redirector { XE "LANpress MP redirector" \i } is a device driver that installs on the client workstation to provides peer-to-peer printing { XE "peer-to-peer printing" \i } using the LANpress MP print server. The redirector supports Windows 95 and Windows NT workstations in either IP or NetBEUI environments and Windows 3.11 workstations in the NetBEUI environment.

The redirector creates a LANpress port { XE "LANpress port" \i } on the client workstation. This port allows the user to add or create a workstation printer that is attached to the LANpress MP print server. Only one printer can be added using the port the redirector creates. However, you can use the first LANpress MP printer port to create additional ports for additional LANpress MP printers.

This instruction describes how to install the LANpress MP print redirector for the TCP/IP protocol. The installation follows the standard Windows format and is applicable to the Windows 95, Windows NT 4. x and Windows 3.51 formats. Subsequent sections describe how to create the first printers using the LANpress MP port and how to create additional printers.

There are two LANpress MP redirector diskettes. One diskette contains the redirector software for Windows 95 and for Windows NT. The other diskette contains the redirector software for Windows 3.11. To install the LANpress MP IP redirector:

- 1 Locate the LANpress MP Redirector diskette that supports the operating system installed on the workstation and insert it in the floppy drive.
- 2 Go to and select the Run... command in your Windows program.

- 3 In the Run text box, type:

a: \setup

and press Enter.

- 4 Read the first installation screens and Select Next when you are done.
- 5 This screen shows the default path setup creates for the redirector. If you want to use a different path, click on the Browse button. Click Next to continue.
- 6 Select the TCP/IP transport protocol and click on Next.
- 7 Select the software component you want to install.

Install Device Driver—This is the LANpress MP device driver that allows the workstation to use the LANpress MP print server. You must install the driver on every workstation that uses the print server for peer-to-peer printing.

SetBox—SetBox{ XE "SetBox" \i } is a tool the administrator can use to configure the LANpress MP print server with an IP address.

Note. When you use the diskette copy of SetBox to set a LANpress MP print server's IP address, the address is also written to the diskette. When the diskette is used to install the device driver on client workstations, the device driver is automatically provided with the IP address of the LANpress MP print server. The device driver requires the print server's IP address to configure ports for printing.

- 8 Select the program folder you want to display the software that is to be installed in.

When the program completes the installation, it prompts you to restart the computer. You must restart Windows to make this new printer port available. You can reboot now or later.

Adding the First LANpress MP Printer in Windows 95

This procedure describes how to add the first LANpress MP printer on a Windows 95 workstation.

Requirements

- Printer attached to the LANpress MP print server port you want to use
- LANpress redirector installed on the workstation

- 1 Click on the Start button and select Settings.
- 2 Select Printer.
- 3 Double-click on Add Printer. This starts the Add Printer Wizard.
- 4 In the second Add Printer Wizard window, select Local Printer. Click on Next.
- 5 In the Available Port dialog box, select LANpress. Click on Configure Port.
- 6 In the Configure Port dialog box:

- A** Enter the IP address { XE "IP address" \i } for the LANpress MP print server you want to use. Click on the Select Physical Port button. This causes the installation program to search for the LANpress MP print server on the network, and to list the ports available for the LANpress MP model.
- B** Select the LANpress port { XE "LANpress port" \i } you want to print to.
- C** Fill out the Banner section if you want to print a banner page { XE "banner page" \i } for each job the user sends. The user name in the section is the name that will be printed on the banner page.
- D** Set the Retry Interval the workstation is to use to resend jobs to print server when the print server is busy with another job.
- E** Click on OK.

7 Select the printer manufacturer and the printer model of the printer attached to the LANpress MP print server that you want to use. Click on Next.

8 Enter a name for the printer. This name will be used to identify the printer on the workstation. Click Next

9 Select whether or not to print a test page when this setup is complete. Click Finish.

Note. You can make this a sharable printer { XE "sharable printer" \i }. In this case, the workstation becomes a queue for the printer. All user jobs are received by and stored on the workstation's hard drive and dispatched to the printer after the printer finishes the previous job.

This completes adding a printer.

Creating Additional LANpress Printer Ports in Windows 95

The LANpress port can be used to link only one printer to one physical printer port at a time. If you want to add a new printer that prints to a different physical port or that is a different model or that will use a different LANpress MP print server, you must clone the LANpress port and give it a unique name. You can create another LANpress port by cloning and renaming the existing port. This instruction tells you how to create a new LANpress port.

- 1** Go to the printer program manager.
- 2** Highlight the existing LANpress MP redirector printer.
- 3** Click on the File pull down menu and select Properties.
- 4** Click on the Details tab.
- 5** Click on Add Port.
- 6** Click on Other.
- 7** Select LANpress.
- 8** Enter the IP address for the LANpress MP print server you want to use.

- 9 Click on the Select Physical Port button and select the LANpress MP print server printer port that the printer you want to use is attached to.
- 10 Enter a new name for the printer port you are creating. You can only use 8 characters{ XE "characters" \i } in the name. Click on Next.
- 11 Enable the banner page if you desire.
- 12 Click on OK.
- 13 Locate the "Print to the following port { XE "Print to the following port" \i }" text box. The port you have just created is shown. Click on the arrow to display the list of available ports, and select the original port you used for this printer. Click on OK to exit the properties dialogue box.

This completes creating a new port for LANpress MP. The new port is available for the next printer that you add.

Adding the First LANpress MP Printer in Windows NT 4. x

This procedure describes how to create the first LANpress MP printer on a Windows NT 4. x workstation.

Requirements

- Printer attached to the LANpress MP print server port you want to use
- LANpress redirector installed on the workstation

- 1 Click on the Start button and select Settings.
- 2 Select Printer.
- 3 Double-click on Add Printer. This starts the Add Printer Wizard.
- 4 In the second Add Printer Wizard window, select My Computer. Click on Next.
- 5 Select the printer manufacturer and the printer model of the printer attached to the LANpress MP print server that you want to use. Click on Next.
- 6 In the Available Port dialog box, select LANpress. Click on Configure Port.
- 7 In the Configure Port dialog box:
 - A Enter the IP address{ XE "IP address" \i } for the LANpress MP print server you want to use. Click on the Select Physical Port button. This causes the installation program to search for the LANpress MP print server on the network, and to list the ports available for the LANpress MP model.
 - B Select the LANpress port the printer you want to print to is connected to.
 - C Fill out the Banner section if you want to print a banner page for each job the user sends. The user name in the section is the name that will be printed on the banner page.
 - D Set the Retry Interval the workstation is to use to resend jobs to print server when the print server is busy with another job.

E Click on OK.

7 Enter a name for the printer. This name will be used to identify the printer on the workstation. Click Next

8 Select whether or not to print a test page when this setup is complete. Click Finish.

Note. You can make this a sharable printer { XE "sharable printer" \i }. In this case, the workstation becomes a queue for the printer. All user jobs are received by and stored on the workstation's hard drive and dispatched to the printer after the printer finishes the previous job.

This completes adding a printer.

Creating Additional LANpress Printer Ports in Windows NT 4.x

The LANpress port can be used to link only one printer to one physical printer port at a time. If you want to add a new printer that prints to a different physical port or that is a different model or that will use a different LANpress MP print server, you must clone the LANpress port and give it a unique name. You can create another LANpress port by cloning and renaming the existing port. This instruction tells you how to create a new LANpress port.

- 1** Locate and open the Printer program group on the workstation.
- 2** Click on Add Printer.
- 3** Select My Computer and click on Next.
- 4** Click on the Add Port button.
- 5** Select LANpress.
- 6** Click on the New Port button beneath the available port listing.
 - A** Enter the IP address for the LANpress MP print server you want to use. Click on the Select Physical Port button. This causes the installation program to search for the LANpress MP print server on the network, and to list the ports available for the LANpress MP model.
 - B** Select the LANpress MP print server you want to use for printing.
 - C** Click on the Select Physical Port button and select the LANpress MP print server printer port that the printer you want to use is attached to.
 - D** Enter a name for the new printer port in the Name text box. You may use up to 13 characters.
 - E** If you want the printer to print a banner page for each job sent, enable the banner page button. Be sure to enter the name that you want to have printed on the banner page in the Name text box.
 - F** Click on Close.

Note that the new port is already selected. Click on Next.

- 7 Select a printer and printer driver that is equivalent to the printer attached to the LANpress MP print server physical port you chose to print to. Click on Next.
- 8 Assign a name for the printer. Click on Next.
- 9 Decide whether or not you want this to be a shared printer. Click on Next.
- 10 Decide whether or not you want a test page printed. Click on Finish.

Creating the First LANpress MP Printer in Windows NT 3.51

This procedure describes how to create the first LANpress MP printer on a Windows NT 3.51 workstation.

Requirements

- Printer attached to the LANpress MP print server port you want to use
- LANpress Redirector installed on the workstation

- 1 Go to the Main program group and open the Print Manager.
- 2 Open Printer menu and select Create Printer { XE "Create Printer" \i }....
- 3 Enter a name in the Printer Name dialog box for the printer attached to the LANpress MP print server port you want to print to.
- 4 Select the appropriate Driver for the printer.
- 5 In the Description text box, enter a useful description for the printer.
- 6 In the Print to: text box, click on the arrow and select LANpress from the list.
- 7 Click on the Settings button.
 - A Enter the IP address assigned to the LANpress MP print server.
 - B If your LANpress MP print server has only one port, skip this step. Click on the Select Physical Port button. This implements a search for the LANpress MP print server on the network. When the search successfully completes, the text box that shows the available ports is activated. Choose the LANpress MP print server port that the printer is connected to.
 - C Fill in the Banner section if you want a banner page to be printed with each print job. Be sure to change the name to the name you want to appear on the Banner head.
 - D Select OK.

Note. You can make this a sharable printer. In this case, the workstation becomes a queue for the printer. All user jobs are received by and stored on the workstation's hard drive and dispatched to the printer after the printer finishes the previous job.

- 8 Select OK to complete the setup.

This completes adding a printer.

Creating Additional LANpress Printer Ports in Windows NT 3.51

The LANpress port can be used to link only one printer to one physical printer port at a time. If you want to add a new printer that prints to a different physical port or that is a different model or that will use a different LANpress MP print server, you must clone the LANpress port and give it a unique name. You can create another LANpress port { XE "LANpress port" \i } by cloning and renaming the existing port. This instruction tells you how to create a new LANpress port.

- 1 Go to the Main program group and open the Print Manager.
- 2 Open Printer menu and select Create Printer....
- 3 Enter a name in the Printer Name dialog box for the printer attached to the LANpress MP print server port you want to print to.
- 4 Select the appropriate Driver for the printer attached to the LANpress MP print server.
- 5 In the Description text box, enter a useful description for the printer.
- 6 In the Print to: text box, click on the arrow and select Other... from the list.
- 7 Select LANpress in the Available Print Monitors list.
- 8 Click on the Settings button.
 - A Enter the IP address of the LANpress MP print server you want to use in the Device Name text box.
 - B If your LANpress MP print server has only one port, skip this step. Click on the Select Physical Port button to display the ports available on the LANpress MP print server. Choose the port the printer is connected to.
 - C Enter a name for the port.
 - D Fill in the Banner section if you want a banner page to be printed with each print job. Be sure to change the name to the name you want to appear on the Banner head.
 - E Select OK.
- 9 Select OK to complete the setup.

Configuring the LANpress MP Print Server for the NetBEUI Environment

NetBEUI is a Microsoft network protocol that allows Windows workstations to interconnect with other, local Windows workstations without the need for gateways, routers, servers and other such internet equipment. The LANpress MP print server's support of the NetBEUI protocol { XE "NetBEUI protocol" \i } allows you to set up a centralized printer that does not burden one of the networked workstations. Moreover, it allows NetBEUI users to print to the same printers as other network users.

The NetBEUI protocol is enabled in the LANpress MP print server at the factory and is ready for operation. To use this feature, each NetBEUI workstation must install the NetBEUI redirector software that is on the LANpress MP Windows 95 and Windows NT Print Redirector diskette (XE "Print Redirector diskette" li) or on the LANpress MP Windows for Workgroups Print Redirector diskette. This instruction describes how to install the software and how to configure the workstation to use the redirector with a single printer and with additional printers.

Installing the Print Redirector for the NetBEUI Protocol

- 1 Locate the LANpress MP Print Redirector diskette for your operating system and insert it in the floppy drive.
- 2 Go to and select the Run... command in your Windows program.
- 3 In the Run text box, type:
a: \setup
and press Enter.
- 4 Read the first installation screens and Select Next when you are done.
- 5 The next screen shows the default path that will be created for the redirector. If you want to use a different path, click on the Browse button. Click Next to continue.
- 6 Select the NetBEUI protocol and click on Next. This screen does not appear in the Windows 3.11 installation. Skip to the next step.
- 7 Select the program folder you want to display the software that is to be installed in.

When the program completes the installation, it prompts you to reboot the computer. You must reboot to activate the redirector device driver. You can reboot now or later.

Adding a Printer Using the NetBEUI Redirector in Windows 95

To use the LANpress MP print server, you must add a workstation printer using the LANpress MP redirector. The redirector driver is established as a printer port on your workstation and can only be used for one printer. However, you can create additional ports for additional printers. This instruction describes how to configure the initial NetBEUI printer.

Requirements:

- The NetBEUI network protocol enabled on the workstation
- LANpress redirector installed on the workstation
- The LANpress MP print server attached to the network and powered on

- 1 Locate and open the Printer program group on the workstation.
- 2 Click on Add Printer.

- 3 Select Local Printer and click on Next.
- 4 Select a printer and printer driver that is equivalent to the printer attached to the LANpress MP print server physical port you chose to print to. Click on Next.
- 5 Locate LANpress in the Available Ports list and click on the Configure Port button. Be sure that a check mark appears in the selection box.
 - A Locate Device Name and click on the Browse button. This causes the workstation to look for the LANpress MP print server on the network. After a moment it will list all of the LANpress MP print servers it finds.
 - B Select the LANpress MP print server you want to use for printing.
 - C Click on the Select Physical Port button and select the LANpress MP print server printer port that the printer you want to use is attached to.
 - D If you want the printer to print a banner page for each job sent, enable the banner page button. Be sure to enter the name that you want to have printed on the banner page in the Name text box.
 - E Click on OK to accept the parameters.

Click on Next.

- 6 Assign a name for the printer. You can only use 8 characters in the name. Click on Next.
- 7 Decide whether or not you want this to be a shared printer. Click on Next.
- 8 Decide whether or not you want a test page printed. Click on Finish.

This completes adding a printer.

Creating Additional LANpress MP Printer Ports in Windows 95

The LANpress port can be used to link only one printer to one physical printer port at a time. If you want to add a new printer that prints to a different physical port or that is a different model or that will use a different LANpress MP print server, you must clone the LANpress port and give it a unique name. You can create another LANpress port by cloning and renaming the existing port. This instruction tells you how to create a new LANpress port.

- 1 Go to the printer program manager.
- 2 Highlight the existing LANpress MP redirector printer.
- 3 Click on the File pull down menu and select Properties.
- 4 Click on the Details tab.
- 5 Click on Add Port.
- 6 Click on the Other radio button and select LANpress. Click OK.
- 7 Click on Browse. Select the LANpress MP print server you want to use when the list appears.

- 8 Click on the Select Physical Port button and select the LANpress MP print server printer port that the printer you want to use is attached to.
- 9 Enter a name for the printer port. You can only use 8 characters in the name. Click on Next.
- 10 Enable the banner page if you desire.
- 11 Click on OK.
- 12 Click on OK.

This completes creating the port. You can create a printer using the port you just created.

Adding a Printer Using the NetBEUI Redirector in Windows NT 4.x

To use the LANpress MP print server, you must add a workstation printer using the LANpress MP redirector { XE "LANpress MP redirector" \i }. The redirector driver is established as a printer port on your workstation and can only be used for one printer. However, you can create additional ports for additional printers. This instruction describes how to configure the initial NetBEUI printer.

Requirements:

- The NetBEUI network protocol enabled on the workstation
- The LANpress MP print server attached to the network and powered on
- LANpress redirector installed on the workstation

- 1 Locate and open the Printer program group on the workstation.
- 2 Click on Add Printer.
- 3 Select My Computer and click on Next.
- 4 Locate LANpress in the Available Ports list and click on the Configure Port button. Be sure that a check mark appears in the selection box.
 - A Locate Device Name and click on the Browse button. This causes the workstation to look for the LANpress MP print server on the network. After a moment it will list all of the LANpress MP print servers it finds.
 - B Select the LANpress MP print server you want to use for printing.
 - C Click on the Select Physical Port button and select the LANpress MP print server printer port that the printer you want to use is attached to.
 - D If you want the printer to print a banner page for each job sent, enable the banner page button. Be sure to enter the name that you want to have printed on the banner page in the Name text box.
 - E Click on OK to accept the parameters.
- 5 Click on Next.

- 6 Select a printer and printer driver that is equivalent to the printer attached to the LANpress MP print server physical port you chose to print to. Click on Next.
- 7 Assign a name for the printer. Click on Next.
- 8 Decide whether or not you want this to be a shared printer. Click on Next.
- 9 Decide whether or not you want a test page printed. Click on Finish.

This completes adding a printer.

Creating Additional LANpress MP Printer Ports in Windows NT 4.x

The LANpress port can be used to link only one printer to one physical printer port at a time. If you want to add a new printer that prints to a different physical port or that is a different model or that will use a different LANpress MP print server, you must clone the LANpress port and give it a unique name. You can create another LANpress port by cloning and renaming the existing port. This instruction tells you how to create a new LANpress port.

- 1 Locate and open the Printer program group on the workstation.
- 2 Click on Add Printer.
- 3 Select My Computer and click on Next.
- 4 Click on the Add Port button.
- 5 Select LANpress and click on the New Port button.
 - A Locate Device Name and click on the Browse button. This causes the workstation to look for the LANpress MP print server on the network. After a moment it will list all of the LANpress MP print servers it finds.
 - B Select the LANpress MP print server you want to use for printing.
 - C Click on the Select Physical Port button and select the LANpress MP print server printer port that the printer you want to use is attached to.
 - D Enter a name for the new printer port in the Name text box. You may use up to 13 characters.
 - E If you want the printer to print a banner page for each job sent, enable the banner page button. Be sure to enter the name that you want to have printed on the banner page in the Name text box.
 - F Click on Close.

Note that the new port is already selected. Click on Next.

- 6 Select a printer and printer driver that is equivalent to the printer attached to the LANpress MP print server physical port you chose to print to. Click on Next.
- 7 Assign a name for the printer. Click on Next.
- 8 Decide whether or not you want this to be a shared printer. Click on Next.
- 9 Decide whether or not you want a test page printed. Click on Finish.

Creating a Printer Using the NetBEUI Redirector in Windows NT 3.51

The following procedure describes how to use the LANpress MP NetBEUI redirector (XE "NetBEUI redirector" \i) on a Windows NT 3.51 workstation. You must setup the redirector with each LANpress MP print server printer and printer configuration you want the workstation to use.

Requirements

- NetBEUI protocol enabled on the workstation
- LANpress Redirector installed on the workstation
- Printer attached to the LANpress MP print server port you want to use

- 1 Go to the Main program group and open the Print Manager.
- 2 Open Printer menu and select Create Printer (XE "Create Printer" \i)....
- 3 Enter a name in the Printer Name dialog box for the printer attached to the LANpress MP print server port you want to print to.
- 4 Select the appropriate Driver for the printer attached to the LANpress MP print server.
- 5 In the Description text box, enter a useful description for the printer.
- 6 In the Print to: text box, click on the arrow and select LANpress from the list.
- 7 Click on the Settings button.
 - A Click on the Browse button. This causes the workstation to look for the LANpress MP print server on the network. After a moment it will list all of the LANpress MP print servers it finds.
 - B Click on the Select Physical Port button to display the ports available on the LANpress MP print server. Choose the port the printer is connected to.
 - C Enter a name for the port.
 - D Fill in the Banner section if you want a banner page to be printed with each print job. Be sure to change the name to the name you want to appear on the Banner head.
 - E Select OK.

Note. You can make this a sharable printer. In this case, the workstation becomes a queue for the printer. All user jobs are received by and stored on the workstation's hard drive and dispatched to the printer after the printer finishes the previous job.

- 8 Select OK to complete the setup.

This completes adding a printer.

Creating Additional LANpress MP Printer Ports in Windows NT 3.51

The LANpress port can be used to link only one printer to one physical printer port at a time. If you want to add a new printer that prints to a different physical port or that is a different model or that will use a different LANpress MP print server, you must clone the LANpress port and give it a unique name. This instruction tells you how to create a new LANpress port.

- 1 Go to the Main program group and open the Print Manager.
- 2 Open Printer menu and select Create Printer....
- 3 Enter a name in the Printer Name dialog box for the printer attached to the LANpress MP print server port you want to print to.
- 4 Select the appropriate Driver for the printer attached to the LANpress MP print server.
- 5 In the Description text box, enter a useful description for the printer.
- 6 In the Print to: text box, click on the arrow and select Other... from the list.
- 7 Select LANpress in the Available Print Monitors list.
- 8 Click on the Settings button.
 - A Click on the Browse button. This causes the workstation to look for the LANpress MP print server on the network. After a moment it will list all of the LANpress MP print servers it finds.
 - B Click on the Select Physical Port button to display the ports available on the LANpress MP print server. Choose the port the printer is connected to.
 - C Enter a name for the port.
 - D Fill in the Banner section if you want a banner page to be printed with each print job. Be sure to change the name to the name you want to appear on the Banner head.
 - E Select OK.
- Note.** You can make this a sharable printer. In this case, the workstation becomes a queue for the printer. All user jobs are received by and stored on the workstation's hard drive and dispatched to the printer after the printer finishes the previous job.
- 9 Select OK to complete the setup.

Creating a Printer in the Windows for Workgroups Environment

The LANpress MP Redirector for Windows for Workgroups diskette installs an application program that serves three purposes. First, the program allows you to configure the LANpress MP print server and the workstation so that you can print. Second, the program serves as the device driver the system requires for printing. And third, the program allows you to manage the LANpress MP printer ports you create.

Configuring and Creating a Printer Port

The redirector allows you to create printer ports on the Windows for Workgroups workstation that connect to the LANpress MP print server. The application program allows you to specify and configure a LANpress MP print server printer port, and it automatically uses the configuration to create the port on the Windows for Workgroups workstation. This section describes how to configure and create a port.

Requirements

NetBEUI protocol enabled on the workstation

- 1 Locate and open the LANpress program group on the Windows desktop.
- 2 Open Print Manager PSERVER.PSR.
- 3 The Print Manager immediately minimizes when it is loaded. Double-click on the icon to restore it.

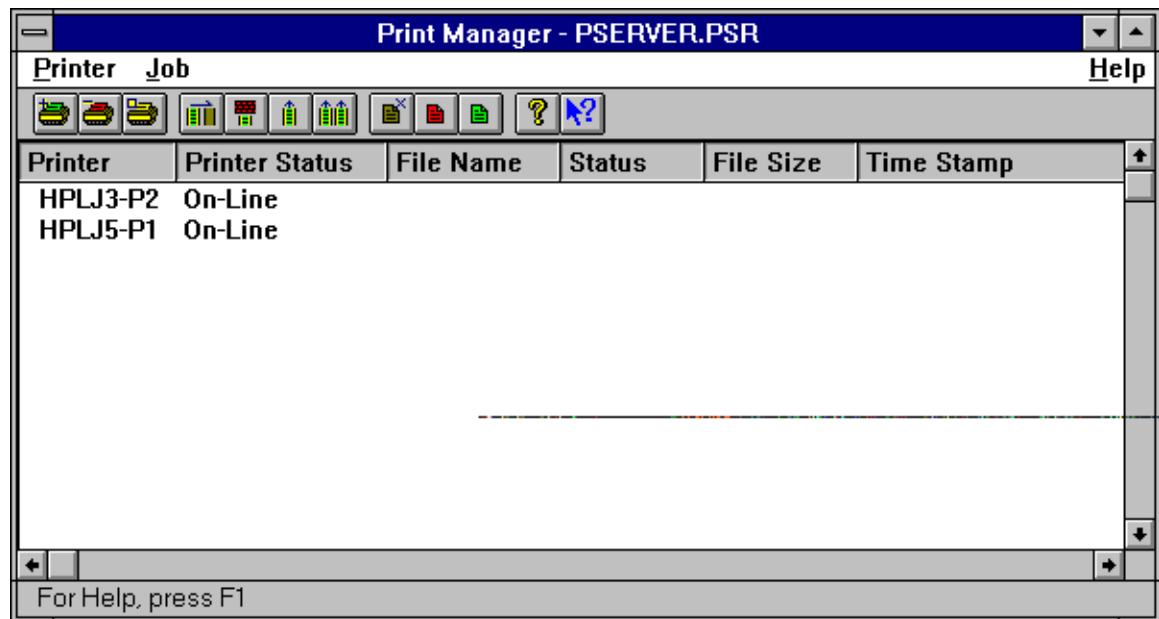


Figure 17 Print Manager-PSERVER.PSR

- 4 Open the Printer menu and select Add or click on the Add Printer toolbar icon.

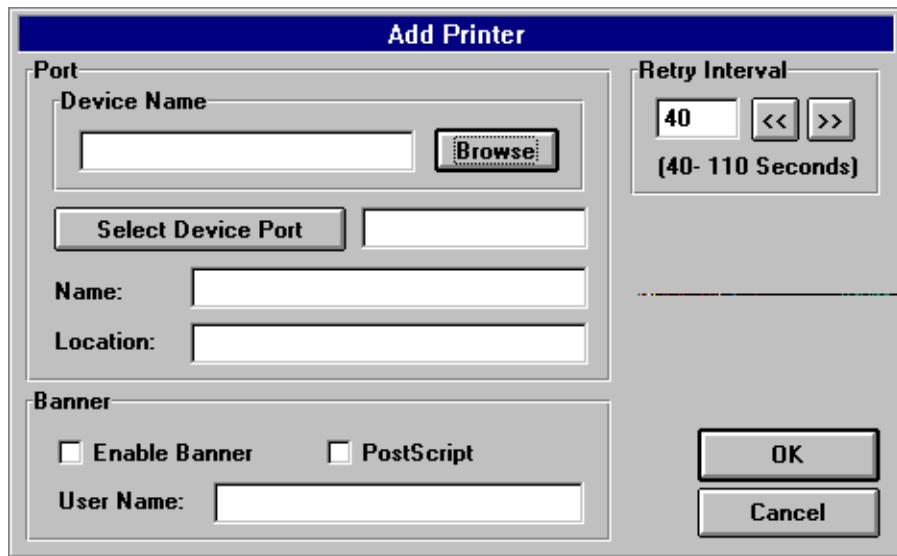


Figure 18 Add Printer Dialog Box

- 5 Click on the Browse button. This initiates a search on the network for LANpress MP printer servers.
- 6 Select the LANpress MP print server you want to use.
- 7 If the model has two or more ports, click on the Select Device Port button.
- 8 Select the port you want to use for printing.
- 9 Enter a name for the port in the Name text box.
- 10 If you want to have a banner page for each job you print, fill out the banner section. Be sure to include the name you want to appear on the banner in the User Name text box.
- 11 Click on OK when everything is correct. The Add Printer dialogue box closes and the new port appears in the Print Manager list.
- 12 Minimize the Print Manager.

Connecting the Printer Port to a Printer

- 1 Locate and open Control Panel.
- 2 Open Printer.
- 3 Select the Add button and add the printer you have connected to the LANpress MP you created the port for. Refer to the Windows for Workgroups documentation if you need assistance adding a printer.
- 4 Select the new printer and click on the Connect button.
- 5 Locate the LANpress MP port in the port list. The port will be listed as a path.
- 6 Click on OK.

Using the LANpress MP Redirector to Print

The LANpress MP redirector is a device driver that allows the Windows for Workgroups workstation to print to the LANpress MP print server's printer ports. You must manually load the redirector you can print using printers attached to the LANpress MP print server. To activate the redirector:

Requirements

NetBEUI protocol enabled on the workstation

- 1 Locate and open the LANpress program group on the Windows desktop.
- 2 Open Print Manager PSERVER.PSR.

Print Manager PSERVER.PSR contains the redirector and immediately minimizes on your desktop. You can only print through the LANpress MP when the Print Manager PSERVER.PSR is active. If you want to monitor your print jobs or manage port configurations, double-click on the icon to maximize the management tool. This does not affect the printing function.

Using the Print Manager

The Print Manager allows you to configure and modify the port settings and to monitor print jobs that are sent to the LANpress MP print server. You can use the Print Manager to cancel jobs that are sent to the LANpress MP print server or cause the job to pause and, later, restart it. This section provides a brief description of the Print Monitor options.

To access the Print Monitor:

- 1 Locate and open the LANpress program group on the Windows desktop.
- 2 Open Print Manager PSERVER.PSR.
- 3 The Print Manager immediately minimizes when it is loaded. Double-click on the icon to restore it.

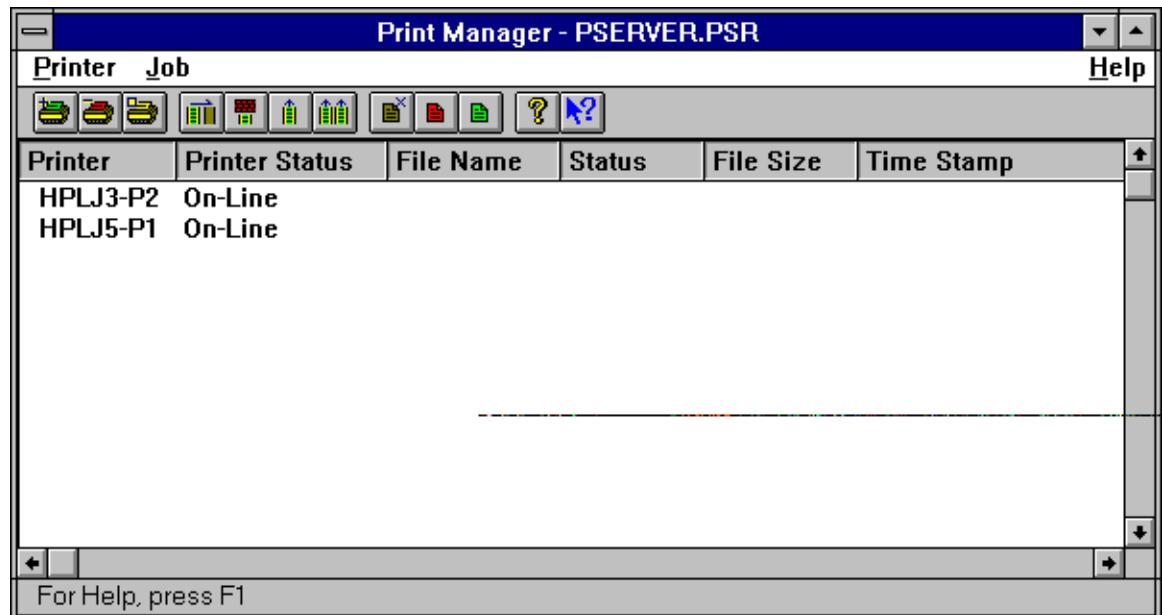


Figure 19 Print Manager PSERVER.PSR

Printer—This is a pull down menu with options that allow you to create or modify a LANpress MP printer port for Windows for Workgroups and to manage the LANpress MP print queues.

Add—Allows you to create and configure a LANpress MP printer port for the Windows for Workgroups workstation. After you configure the port, this option automatically creates the port on the workstation.

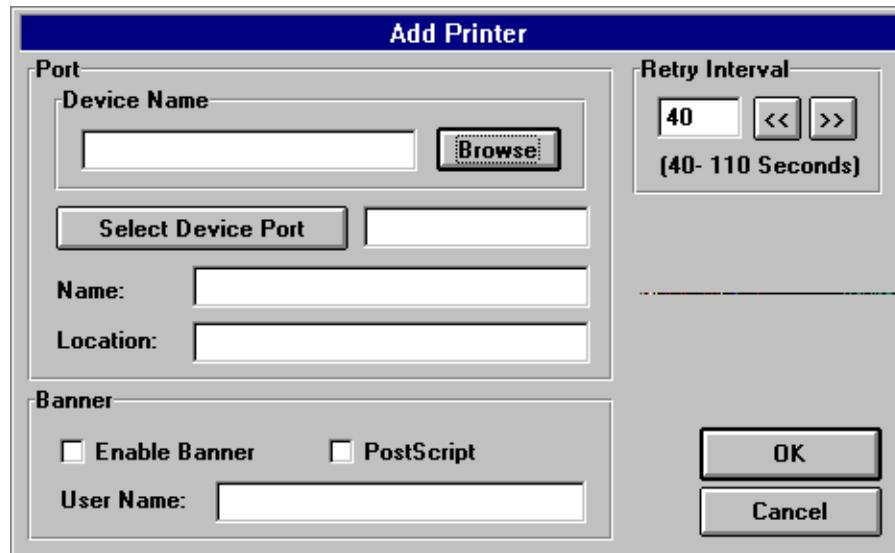


Figure 20 Add Printer Dialogue Box

Port—Allows you to create a printer port for Windows for Workgroups.

Device Name—This is the LANpress MP print server where the port is physically located. Click on the Browse button for a list of LANpress MP print servers on the network, and select the unit you want to use.

Select Device Port—This button causes a list of the ports the selected LANpress MP print server model has to display. The list is model specific; the software cannot determine whether a printer is connected to the port.

Name—This is the name you assign to the port you are creating.

Location— This text box is reserved for a comment you may have. You can use the space to indicate where the print server is physically located.

Banner—This section allows you to print a banner page with each job the workstation sends to the printer attached to the printer port.

Enable Banner—This option allows you to enable and disable the banner page. Click on the text box to make your selection. An X enables the banner page.

PostScript—This option allows you to have the banner page formatted for a postscript printer. Click on the text box to make your selection. An X enables the postscript format.

User Name—This is the name that will print on the banner page

Retry Interval— This is the time, in seconds, the redirector will wait before resubmitting the print job to the printer when the printer is busy. The interval range is 40 to 110 seconds.

Remove—Deletes the selected port on the LANpress MP print server. The port on workstation is not affected. If you want to remove the port on the workstation, you must do so in the Printers dialogue box in Windows for Workgroups.

Update—Allows you to view and modify the current configuration of the selected printer port.

Clear-Queue—Deletes the contents of the print queue for the selected port.

Pause Queue—Halts printing to the selected port.

Resume Queue—Restarts printing to the selected port.

Resume All Queues—Restarts printing to all ports.

Job—This is a pull down menu with options that allow you to manage print jobs that are in the queue of the selected port.

Pause—Allows you to temporarily halt printing of the job for the selected port that is currently printing.

Resume—Restarts printing the job that was halted.

Status Field—The status field lists the printer ports you have created for the LANpress MP print server and Windows for Workgroups. It also provides the current print status of each port.

Printer—This is the name of the printer port.

Printer Status—This is the current print status of the port.

File Name—This is the name of the file that is being printed.

Status—This field shows the percentage completion of the current print job.

File Size—This field shows the size of the file that is printing.

Time Stamp—This is the time the job was sent to the printer.

TROUBLESHOOTING

This section describes some problems we have seen using the LANpress redirector in some situations. A solution is provided below each problem statement.

Problem: Printing from some applications take a very long time to process and the printout is incorrect.

Solution: This symptom often occurs because the application does not support the "Start printing after first page is spooled" spooling instruction in your Windows printer setting. Disable this option. To disable the option:

- 1 Go to Control Panel and select Printers.
- 2 Select the printer that exhibits the problem.
- 3 Open the File menu and select Properties.
- 4 Select the Details tab.
- 5 Click on the "Spool Settings" button.
- 6 Deselect "Start printing after LAST page is spooled" and click OK.

Problem: I receive a printer not found message when I try to add a LANpress MP printer in Windows 95.

Solution: On some systems, selecting Local printer will cause the printer driver to poll the printer to see if it is attached to the computer before allowing the process to complete. Since the printer is attached to the LANpress MP print server and not the computer, the system records a failure and issues "the printer could not be found" message. If the message is encountered, add the printer using the Network printer option. To add a network printer:

- 1 Start the Printer Wizard and select Network printer when prompted.
- 2 In the Network Path or Queue name text box, type:

\\\54321

Click on Next.

- 3 Ignore the off-line message from the printer wizard and complete the printer installation.
- 4 When the installation is complete, open the Printers program group in the Control Panel. Notice that the icon for the printer you just installed is gray indicating that the printer is not ready.
- 5 Select the printer icon and open the File menu.
- 6 Select Properties and click on the Details tab.
- 7 Click on the arrow for the "Print to the following port" text box, and select LANpress. Click on OK.
- 8 Click on the File menu.
- 9 Deselect the Work off-line option. This makes the printer port active.

Problem: I have connected and configured the printer in Windows 95 as described, but it does not print.

Solution: When a Windows Printing System, WPS, printer is configured as Local printer, the printer driver polls the printer before sending print data. Since the printer is actually networked, the printer is not detected and the data is not sent. If you are using a WPS printer, reinstall the printer as a network printer as described in the preceding solution.

The following is a list of common WPS printers:

Canon LBP-430W

Epson ActionLaser 1300/W

Epson EPL-5500/W

HP LaserJet 5L

Lexmark WinWriter 100, 200, 400, 600

NEC SuperScript series
Olivetti PG304
Samsung MyLaser-4, 5, 6

Chapter 6: Configuring the LANpress MP Print Server for UNIX

Users of UNIX workstations can use the LANpress MP print server for printing. The LANpress MP print server supports the TCP/IP protocol that allows it to connect to UNIX hosts, and it supports lpd, PSfilter { XE "PSfilter" \i } and tftp print protocols { XE "tftp print protocols" \i }. To use the LANpress MP print server in the UNIX environment, you must configure the print server for the UNIX environment and you must configure elements in your UNIX environment to use the print server. This chapter describes setting up the LANpress MP print server for printing in the UNIX environment.

The LANpress MP print server supports three print protocols that can be used in the UNIX environment: LPD { XE "LPD" \i }, PSfilter, and TFTP. LPD is a standard print protocol supported by most UNIX systems. Although the LANpress MP print server supports all of the lpd print commands, it handles the printing operation differently. Because of this difference, print options defined in the lpd control file that are normally executed at the beginning of the print job—such as multiple copies and banner page—cannot be executed.

PSfilter is a proprietary print protocol provided with the LANpress MP print server that provides full print functionality. This software is shipped on the LANpress MP UNIX Print Redirector diskette and is compiled for several UNIX systems. If the UNIX system you use is not among those that are precompiled, you can compile the software for your system if you have a compiler.

The LANpress MP print server also supports the TFTP protocol. TFTP commands can be used for printing, but are suitable only for print small jobs in systems where there are few users. You can also use TFTP commands to configure the LANpress MP print server when the administration utilities are not available.

To configure the LANpress MP print server for UNIX, you must:

- Assigning the LANpress MP print server an IP address
- Assigning the LANpress MP print server a host name

Depending on the protocol you use or the printers you connect to the LANpress MP print server, you may also need to:

- Determine the LANpress MP print server's node address { XE "node address" \i }
- Configure the LANpress MP print server's logical ports { XE "logical ports" \i } (required for lpd)
- Configure the print server's serial port

This chapter describes how you can configure the LANpress MP print server for the UNIX environment. You can use the LANpress MP administration utilities MPADMIN and MPCONFIG to configure the LANpress MP print server or you can use command line commands.

MPADMIN is the LANpress MP's Windows-based administration utility and MPCONFIG is the LANpress MP's DOS-based administration utility. These utilities can be used to:

- Assign the LANpress MP print server an IP address
- Change the device name the LANpress MP print server uses on the network (the default name is the unit's serial number)
- Configure the print server with logical ports
- Set the print server's serial port parameters
- Configure the print server for other network environments
- Display the unit's configuration parameters
- Other administrative task

These utilities use the IPX/SPX protocol { XE "IPX/SPX protocol" \i } to communicate with the print server, and can be used from any Windows or DOS workstation on the network to configure the LANpress MP print server.

Configuring your UNIX system that use lpd { XE "lpd" \i } and PSfilter{ XE "PSfilter" \i } to use the LANpress MP print server is discussed in the following chapters.

Using MPADMIN to Configure the LANpress Print Server

MPADMIN is a Windows utility that can be used to assign the LANpress MP print server a IP address, configure logical ports and configure the serial port. MPADMIN uses the IPX/SPX protocol and can access the LANpress print server from anywhere on the network. Only the workstation you install MPADMIN on needs to support IPX/SPX protocol. This section tells you how you can use MPADMIN to configure the LANpress MP print server.

Requirements

- MPADMIN installed on a workstation running Windows 95, Windows NT, Windows 3.1 or Windows 3.11
- IPX/SPX protocol installed and enabled on the workstation

Note. For instructions installing MPADMIN on your Windows workstation and for enabling the IPX/SPX protocol, refer to Chapter 3: MPADMIN on page 13

- 1 Locate the Castelle LANpress program group and select MPADMIN.
- 2 Select the LANpress print server you want to assign an IP address to.
- 3 Click on the TCP/IP icon or select TCP/IP from the Configuration pull down menu.

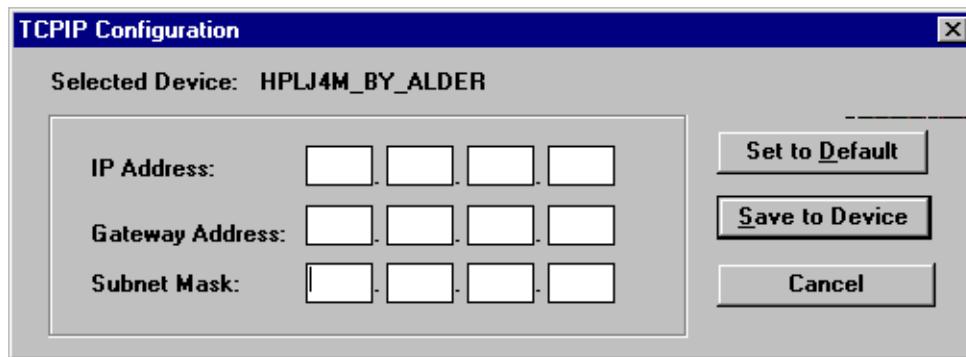


Figure 21 IP Address Dialogue Box

- A Enter the IP address { XE "IP address" \i } you want to assigned to the LANpress MP server.
- B Enter the IP address of the gateway or router the LANpress MP will use to communicate with other network segments.
- C Enter a subnet mask address if the gateway address is set.
- D Click on the Save to Device button to write these addresses to the LANpress MP server.

Assigning the Print Server a Name

The Device Name listed in the Castelle Print Server Administration Utility is the name that is used to identify the selected LANpress MP print server on the network. The default name is the unit's serial number. To rename the unit:

- 1 Click on the Configuration pull down menu and select System.
- 2 In the Device Name: text box, enter the name you want to use to identify the print server on the network. Select Save to Device to save the change.

Configuring Logical Ports

You must make the LANpress MP print server printer ports logical ports if you use the LPD protocol. To configure logical ports { XE "logical ports:MPADMIN" } with MPADMIN:

- 1 Select the LANpress MP print server you want to configure with logical ports.
- 2 Click on the Logical Port icon, or open the Configuration pull down menu and select Logical Port.
- 3 The Logical Port Configuration screen displays dialog boxes for the total number of logical ports you can assign the selected print server. The logical ports are designated L1 through L8. Select the dialogue box for the logical port you want to configure.

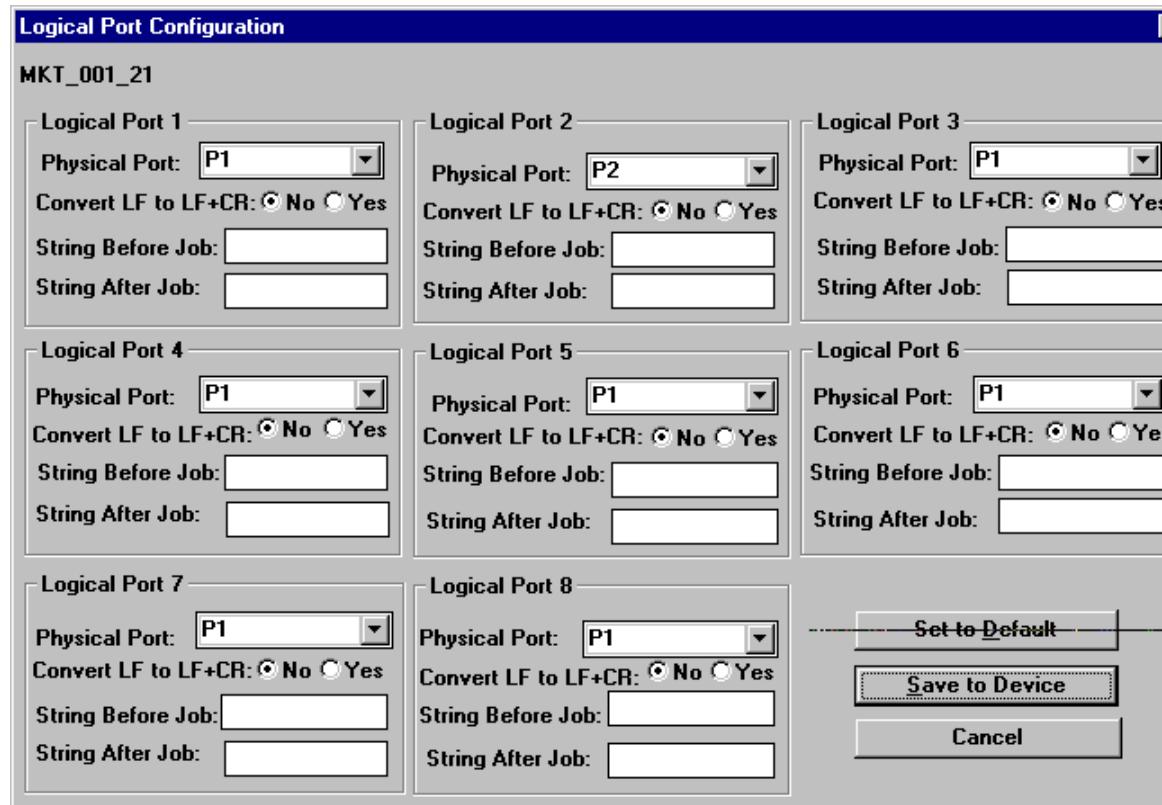


Figure 22 Logical Ports Dialogue Box

- A** Select a physical port to connect to the logical port. The physical port may be a parallel port, P1 through P3, or the serial port, SP. Click on the arrow to display the list of physical ports available on your LANpress MP print server.
- B** The Convert LF to LF+CR radio buttons allow you to change the instruction the printer uses after it prints each line. If the text you are printing does not word wrap properly, try this feature. It adds a carriage return command to the standard line feed command at the end of each line. Select the Yes radio button to enable this feature.
- C** The String Before Job { XE "String Before Job" \i } text box allows you to enter control code commands that provide preprint instructions to the printer. Each time a user uses the logical port to print, the printer sets up according to the instructions in this command.

To issue preprint instructions, enter the hexadecimal characters for the control code you want to use. You may use up to 15 command codes in the String Before Job { XE "String Before Job" \i } text box, and no more than 44 command codes total. Refer to your printer documentation for information on the controls codes your printer uses. The codes may be listed under control codes or HP emulation commands.

D The String After Job { XE "String After Job" \i } text box allows you to enter control code commands that provide postprint instructions to the printer. These are commands that are issued to the printer after the file is printed.

To issue postprint instructions, enter the hexadecimal characters { XE "hexadecimal characters" \i } for the control code you want to use. You may use up to 15 command codes in the String After Job text box, and no more than 44 command codes total. Refer to your printer documentation for information on the controls codes your printer uses. The codes may be listed under control codes or HP emulation commands.

E Click on Save to Device when you are done.

Configuring the Serial Port

You can use MPADMIN to configure the LANpress MP print server for a serial printer. Click on the serial port icon or open the Configuration pull down menu and select Serial Port. Click on the settings that apply to your serial printer. Click on Save to Device when you are done.

Using MPADMIN to Configure the LANpress Print Server

MPCONFIG is a DOS utility designed for the NetWare environment that can be used to assign the LANpress MP print server an IP address { XE "IP address" \i }, configure logical ports and configure the serial port. If you have a NetWare network that is accessible to the UNIX network, you can use MPCONFIG. This section tells you how you can use MPCONFIG to configure the LANpress MP print server.

Requirements

- A NetWare network environment
- MPCONFIG installed on a workstation running DOS
- Log onto the network with administrator privilege

- 1 Log onto a file server with supervisory privilege.
- 2 Locate the LANpress MP Administration Utilities diskette { XE "LANpress MP Administration Utilities diskette" \i } and insert it into the floppy drive.
- 3 Go to the DOS prompt for the floppy drive.

4 Type:

cd dos

Press Enter.

5 Type:

mpconfig

Press Enter.

- 6 Select the serial number of the LANpress MP print server you want to configure.
- 7 Select the LANpress print server you want to assign a IP address to. The factory default name is the unit's serial number.
- 8 Select Change Configuration.
- 9 Select TCP/IP Configuration.
 - A Enter the IP address you want to assigned to the LANpress MP.
 - B Enter the IP address of the gateway or router the LANpress MP will use to communicate with other network segments.
 - C Enter a subnet mask address if the gateway address is set.
 - D Press <Esc>.
- 10 Select Execute Setup to save the configuration to the unit's non-volatile memory.

Assigning the Print Server a Name

The Device Name listed in the Castelle Print Server Administration Utility is the name that is used to identify the selected LANpress MP print server on the network. The default name is the unit's serial number. To rename the unit:

- 1 Open the Change Configuration menu and select System Configuration.
- 2 In the Device Name: text box, enter the new name you want to use to identify the print server on the network. Press <Esc>.
- 3 Select Execute Setup to save the change.

Configuring Logical Ports

You must make the LANpress MP print server printer ports logical ports if you use the LPD protocol. To configure logical ports { XE "logical ports:MPCONFIG" } with MPCONFIG:

- 1 Open the Change Configuration menu and select Logical Printer Configuration.

2 The Logical Print Configuration dialog box displays the total number of logical ports the LANpress MP print server model supports. The logical ports are designated L1 through L8. Select the logical port you want to configure. A physical port may be used on more than one logical port.

A Physical Port—Enter the designation (Px for parallel ports, SP for serial port) for the LANpress MP print server's physical port that you want to associate with the logical port.

B String Before Job—This feature allows you to enter control code commands that provide preprint instructions (such as a command to print multiple copies and a command to print a banner page) to the printer. Each time a user uses the logical port to print, the printer sets up according to the instructions in this command.

To issue preprint instructions, enter the hexadecimal characters for the control code you want to use. You may use up to 15 command codes in the String Before Job { XE "String Before Job" \i } text box, and no more than 44 command codes total. Refer to your printer documentation for information on the controls codes your printer uses. The codes may be listed under control codes or HP emulation commands.

C String After Job—This feature allows you to enter control code commands that provide postprint instructions to the printer. These commands are issued to the printer after the file is printed.

To issue postprint instructions, enter the hexadecimal characters for the control code you want to use. You may use up to 15 command codes in the String After Job { XE "String After Job" \i } text box, and no more than 44 command codes total. Refer to your printer documentation for information on the controls codes your printer uses. The codes may be listed under control codes or HP emulation commands.

D Convert LF to LF+CR—This feature allow you to change the instruction the printer uses after it prints each line. If the text you are printing does not word wrap properly, try this feature. It adds a carriage return command to the standard line feed command at the end of each line.

E Press <Esc> when you are done.

3 Select Execute Setup to save the changes.

Configuring the Serial Port

To use MPCONFIG to configure the LANpress MP print server for a serial printer.

- 1 Open the Change Configuration menu and select Serial Printer Configuration.
- 2 Enter the parameters for the serial print you have attached to the LANpress MP print server. Press <Esc>.
- 3 Select Execute Setup to save the changes.

Configuring the LANpress MP Print Serve Using the Command Line

This section describes how to configure the LANpress MP print server using command line commands { XE "command line commands" \i } on a UNIX workstation. The section tells you how to use arp and RARP { XE "RARP" \i } commands to provide the print server with a TCP/IP address and how to use tftp commands to configure logical and serial ports and to assign the unit a name.

Requirements

- LANpress MP print server attached to the same segment as the UNIX host
- A LANpress MP print server connected to the network and powered on
- LANpress MP Node Address

Determining the LANpress MP Print Server's Node Address

Both ARP{ XE "ARP" \i } and RARP use the LANpress MP print server's node address to identify the print server on the network. The node address { XE "node address" \i } is a unique, 12-digit number that consist of a 6-digit prefix attached to the last 6 digits of the unit's serial number. The numbers are grouped into pairs and separated with colons (:). The 6-digit prefix is:

00:C0:02

For example, if the serial number found on the label attached to the bottom of the print server is CT123456, the LANpress node address would be:

00:C0:02:12:34:56

Using arp or RARP to Assign the LANpress MP IP Address for UNIX

Requirements

- If using RARP, the RARP daemon must be running

You can use either arp or RARP to configure the LANpress MP print server with an IP address in UNIX. ARP sets the IP address in the UNIX host arp table. RARP uses the broadcast method to identify and assign the IP address. The LANpress MP print server must be powered down and then on to use RARP, and the address must be rebroadcast each time the unit is rebooted.

- 1 Log onto the UNIX host as root
- 2 Connect your LANpress unit to the network segment on which the UNIX host resides.
- 3 Create an entry for the LANpress MP print server in the /etc/hosts file. To create the entry, invoke a text editor and type:

IP_Address LANPress_MP_Host_Name Alias # Comment

Where:

- **IP_Address** is a unique IP address you are assigning to LANpress MP print server
- **LANPress_MP_Host_Name** is the name LANpress MP print server will use for identifying itself on the network. We recommend that you assign a host name that will help you remember where the LANpress is located and what printers it is connected to
- **Alias** (Optional) is an alias or an abbreviated name for the print server
- **Comment** (Optional) is a text string that helps you identify that entry in the etc/hosts file. We recommend that you include the LANpress MP's serial number in the comment part of the entry.

Note. You must add this host name to every UNIX host that will be using printers attached to the LANpress MP print server.

4 Exit the text editor.

5 Assign the IP address to the LANpress MP print server.

A If you are using arp:

1 Type:

arp -s LANpress_MP_Host_Name Node_address

(You can use the arp-a command to verify that the address is correct.)

Important: The arp table entry disappears after about half a minute, so do the following two steps without delay

2 Type:

tftp LANpress_MP_Host_Name

3 At the tftp prompt, type:

get SETIP

quit

The get SETIP{ XE "SETIP" \i } command causes the LANpress MP to retrieve the IP address from the host's arp table and write it to non-volatile memory.

4 Ping the LANpress MP print server to ensure that it received the IP address. To ping, type:

ping LANpress_MP_Host_Name

B If you are using RARP:

Note. RARP does not write a permanent IP address to the LANpress MP print server, but provides an IP address for the print server to use as long as the print server is powered on. RARP { XE "RARP" \i } can only be used to access the print server if the factory default address, 0.0.0.0, is written in the unit's configuration table.

- 1 Make sure that the RARP daemon is running. To ensure that RARP is running in a System V { XE "System V" \i } version of UNIX, type:

```
ps -ef | grep rarpd
```

To ensure that RARP is running in a BSD { XE "BSD" \i } version of UNIX, type:

```
ps -ax | grep rarpd
```

To invoke the RARP daemon, type:

```
rarpd -a
```

- 2 Use a text editor to add a LANpress MP print server node address entry in the host's /etc/ether file. Open the text editor in the file and type:

```
Node_address LANpress_MP_Host_Name
```

Where

Node_address is the LANpress MP print server's node address (see Determining the LANpress MP Print Server's Node Address for instructions to derive the node address)

LANPress_MP_Host_Name is the name LANpress MP print server will use for identifying itself on the network. (This name must also appear in the /etc/hosts file.)

- 3 Turn the power to the LANpress MP print server off and back on. This allows RARP to locate the unit and provide it with the IP address.
- 4 After the print server reboots, use ping to make sure that the unit received the IP address. To ping, type

```
ping LANpress_MP_Host_Name
```

Changing LANpress MP's Configuration Using tftp

{ XE "tftp:using to configure LANpress MP under UNIX" }{ XE "Configuring LANpress MP:using UNIX tftp commands" }After you assign the LANpress MP print server an IP address, you can set other LANpress MP parameters for your network environment. The parameters that are pertinent to operation are located in the unit's configuration table and include:

- The host name the unit uses on the network
- The unit's IP address, subnet mask address and router IP address

- The logical port configuration
- The serial port configuration
- Switches to enable and disable network protocols

You can configure the configuration table for your network environment. To configure the table, you must copy the table to your workstation, use a text editor to change the parameters, and install the revised table over the current table on the print server. This can be done using command line commands. This section describes how to use the tftp commands to configure the print server. To configure the print server:

- 1 Invoke tftp for the LANpress MP print server you want to configure. Type:

tftp *LANpress_MP_Host_Name*

This starts a tftp session with the LANpress.

- 2 At the tftp prompt, type:

get CONFIG

to copy the configuration table onto the current subdirectory of your workstation.

- 3 Type:

quit

- 4 Use a text editor such as vi to edit the contents of the configuration table. In some UNIX implementations, you must configure the print server's logical ports. The following section, *Configuring LANpress MP's Logical Ports*, discusses locating and configuring the logical ports in the configuration table. You can use the section as a template for locating and setting other parameters. A full listing of the contents of the configuration table is provided in Appendix A, *Configuration Table* on page 119.
- 5 When you have completed setting the parameters in the Configuration Table, you must load the modified table onto the LANpress MP print server. To begin the process, type:

tftp *LANpress_MP_Host_Name*

- 6 At the tftp prompt, type:

put CONFIG

- 7 Type:

get RESET

- 8 Type:

quit

Configuring LANpress MP Print Server Logical Ports for LPD

{ XE "Logical ports:configuring with UNIX tftp" }If you use the LPD mode { XE "LPD mode" \i } for printing, you must configure the LANpress MP print server's logical ports. The LPD mode accesses printers attached to the LANpress MP print server only through the logical ports. PSfilter does not support logical ports.

To configure the logical ports:

- 1 Invoke tftp for the LANpress MP print server you want to configure. Type:

tftp *LANpress_MP_Host_Name*

This starts a tftp session with the LANpress.

- 2 At the tftp prompt, type:

get CONFIG

to copy the configuration table onto the current subdirectory of your workstation.

- 3 Type:

quit

- 4 Use a text editor to open the configuration table.

- 5 Locate the logical port { XE "logical port" \i } parameters in the table. The Logical ports are the L x entries in the configuration table. LANpress MP print servers that have a single port have 3 logical ports you can configure. LANpress MP print servers that have multiple ports having 8 logical ports you can configure. Each port has four parameter:

_PROUT:
_PREST:
_POSTR:
_CHGLF:

- **PROUT** specifies the physical port the logical port is assigned to. Physical ports are designated as P1 through P3 for the parallel ports and SP for the serial port.
- **PREST** specifies the pre-string instruction the port issues to the printer before issuing the print file. The pre-string uses Control codes in hexadecimal notation to provide the preprint instructions. Refer to the printer's documentation for the Control codes the printer recognizes. Use the Hexadecimal notation to configure the PREST parameter.
- **POSTR** specifies the post-string instruction the port issues to the printer following the print file. The post-string uses Control codes in hexadecimal notation to provide the post-print instructions. Refer to the printers documentation for the Control codes the printer recognizes. Use the Hexadecimal notation to configure the POSTR parameter.

- **CHGLF** instructs the printer to issue a carriage return to a line feed command at the end of each line. The default value is to issue a line feed only. Enable this option if the text in your documents are not wrapping correctly. Enter Yes to enable this feature if the printer is printing incorrectly.

Important: When configuring PREST and POSTR:

- Always enter the hexadecimal notation of the control { XE "Pre- and post-strings:entering in hexadecimal notation" }. If your printer's manual does not list hexadecimal values for printer commands, use a calculator to convert the ASCII codes to hexadecimal values.
- You may not use more than 30 Hexadecimal digits in any one PREST or POSTR listing. { XE "Pre- and post-strings:length limitations of" }.
- The combined length of all PREST and POSTR listings may not exceed 88 Hexadecimal digits.

6 When you have completed setting the parameters in the Configuration Table, you must load the modified table onto the LANpress MP print server. To begin the process, type:

tftp LANpress_MP_Host_Name

7 At the tftp prompt, type:

put CONFIG

8 Type:

get RESET

9 Type:

quit

Chapter 7: LPD Setup for UNIX Hosts

The LANpress MP print server supports the LPD protocol used in many UNIX operating systems. To the LPD protocol { XE "LPD protocol" \i }, each printer attached to the LANpress MP print server is a remote printer. This chapter describes how to configure several versions of UNIX to use the LANpress MP print server. If your version of UNIX is not represented in this text, use the instructions for installing a remote printer provided in your UNIX documentation.

Requirements:

- The LANpress MP print server must be connected to the network and the power turned on
- The LANpress MP print server must be configured with an IP address
- The LANpress MP print server must be configured with a host name
- All of the ports on the LANpress MP print server that are used for printing must be assigned a logical port designation
- The LANpress MP print server's host name and IP address must be entered in the host's /etc/hosts file

LANpress MP LPD Configuration for SUN 4.x and SCO UNIX

{ XE "UNIX setup:Sun 4.x and SCO with lpd" }To configure a printer attached to a LANpress MP print server port for SUN 4.x and for SCO UNIX:

1 Log onto the host directory as root.

2 Create a spooling directory for the printer. To create the directory, type:

mkdir /usr/spool/ *printer_name*

where ***printer_name*** is the name of the printer attached to the LANpress MP print server that you are creating the spooling directory for.

3 Make the spooling directory available to the LPD main process. Type:

chown daemon /usr/spool/ *printer_name*
chmod 775 /usr/spool/ *printer_name*
chgrp daemon /usr/spool/ *printer_name*

4 { XE "Printcap file entry:creating (for lpd installation)" }Add a printer entry to the host's /etc/printcap file to create a remote printer. Invoke a text editor and type:

```
printer_name |Comment:\
:lp=:
:rm= LANpress_MP_Host_Name :
:rp=Logical_Port:
:sd=full_spool_directory:
:mx#0:
```

Where:

- **Comment** is a description of this configuration
- **LANpress_MP_Host_Name** is the name used for the LANpress MP print serve in host's /etc/hosts file and in the print server's configuration.
- **Logical_Port** is the logical port value assigned to the LANpress MP's print server port the printer is attached to. To assign logical port values, you can use MPADMIN or you can use tftp commands. Refer to Chapter 7 for instructions on assigning logical ports.

Important: All lines except the first must be indented by one tab character.

- 5 Enable the printer. Type:

```
/usr/bin/enable printer_name
```

and type:

```
/usr/bin/accept printer_name
```

This completes configuring LPD on SUN 4.x and SCO UNIX systems. You can test the configuration by printing a file. To print the /etc/hosts file, type

```
lpr -Pprinter_name /etc/hosts
```

If you want to check the status of the print queue, type:

```
lpq -Pprinter_name
```

LANpress MP LPD Configuration For SUN 5.x

{ XE "UNIX setup:Sun 5.x or UnixWare with lpd" } To configure a printer attached to a LANpress MP print server port for SUN 5.x:

- 1 Log onto the host as root.
- 2 Identify the LANpress MP as a BSD type print server: Type

```
lpsystem -t bsd -R 5 -T 10 PS_Host_Name
```

- 3 Add a queue to the print server: Type

```
lpadmin -pQueue_name -sPS_Host_Name!Logical_Port
```

Where:

- **Queue_name** is the name of the print queue to be added.

- **PS_Host_Name** is the LANpress' host name as defined in /etc/hosts.
- **Logical_Port** is a LANpress MP's logical ports (**L1** through **L3** for single-port models, **L1** through **L8** for multi-port models). All logical port default to the parallel 1 physical port on the LANpress MP print server. If you need assistance configuring the LANpress' logical ports, see the section [Configuring LANpress MP Print Server Logical Ports for LPD](#) on page 88.

4 Enable remote printing from the queue, for example:

enable PS_Host_Name_printer

5 Use the accept command to allow the entry of print jobs into the queue:

accept PS_Host_Name_printer

This completes configuring LPD in SUN 5.x. You can print a file to ensure that the configuration is correct. To print the /etc/host file, type:

lp -d PS_Host_Name_printer /etc/hosts

Important: If you have not configured the LANpress' logical ports, the print job will be sent to parallel port 1 on the LANpress MP print server.

You can check the status of the queue with the lpstat command:

lpstat -o PS_Host_Name_printer

LANpress MP LPD Configuration for HP-UX

{ XE "UNIX setup:HP-UX with lpd" } This section describes configuring a printer attached to a LANpress MP print server port for HP-UX using the SAM utility. You can also use the command line commands described in your HP-UX administration manual to setup the remote printer.

- 1 Log onto the host as root.
- 2 Start SAM.
- 3 Select Printers and Plotters.
- 4 Select Printers/Plotters. The Printer/Plotter Manager screen appears.
- 5 Go to the Actions menu and choose Add Remote Printer/Plotter. The Add Remote Printer screen appears.
- 6 Locate the Printer Name field. Enter a name for the printer you are adding.
- 7 Locate the Remote System Name field. Enter the LANpress MP print server host name as it appears in the /etc/hosts file.
- 8 Locate the Remote Printer Name field. Enter the LANpress MP print server logical port, Lx, you want to print to.

9 If your remote printer is on a BSD System, choose **Yes** or select the associated button.

10 Choose OK.

11 Exit SAM.

This completes the printer configuration. To ensure that the setup spools and prints to the correct printer, print the /etc/hosts file. To test the setup, type:

lp -d *Printer_name* /etc/hosts

After printing the file, you can check the status of the print queue using the **lp -o** command. To check the status, type:

lp -o *Printer_name*

Procedure IV: LPD Setup For IBM AIX

{ XE "UNIX setup:IBM AIX with lpd" } This section describes configuring a printer attached to a LANpress MP print server port for IBM AIX.

IBM-AIX Version 3.2.5:

Use SMIT to configure IBM-AIX to print to a printer attached to the LANpress MP print server. To configure IBM-AIX:

1 Log onto the host as root.

2 Start SMIT and make the following sequence of selections:

Devices
Printer/Plotter
Manage Remote Printer Subsystem
Client Services
Remote Printer Queues
Add a Remote Queue

3 In the Name of queue to add field, enter a print queue name for the LANpress MP print server printer port you want to print to.

4 Locate the Destination Host for remote jobs field. Enter the host name assigned to the LANpress MP print server in the /etc/hosts file.

5 Locate the Remote Printer Name field. Enter the LANpress MP print server logical port, Lx, you want to print to.

6 Locate the Device to add field. Enter a device name for the LANpress MP printer port you are printing to. You must use this name to remove this LANpress MP print server queue from the AIX server.

7 Choose Do.

This completes the setup. Repeat these steps for each LANpress MP print server printer port you want to use.

To ensure that the setup spools and prints to the correct printer, print the /etc/hosts file. To test the setup, type:

qprt -c -Pqueue_name /etc/hosts

After printing the file, you can check the status of the print queue using the **lp -o** command. To check the status, type:

lpstat -pqueue_name

IBM-AIX Version 4.1:

- 1 Log onto the host as root.
- 2 Start SMIT and make the following sequence of selections:
 - Devices
 - Printer/Plotter
 - Print Spooling
 - Add a Print Queue
 - Remote
 - Standard Processing
- 3 In the Name of queue to add field, enter a print queue name for the LANpress MP print server printer port you want to print to.
- 4 Locate the HOSTNAME of remote server field. Enter the host name assigned to the LANpress MP print server in the /etc/hosts file.
- 5 Locate the Remote Printer Name field. Enter the LANpress MP print server logical port, Lx, you want to print to.
- 6 Choose Do.

This completes the setup. Repeat these steps for each LANpress MP print server printer port you want to use.

To ensure that the setup spools and prints to the correct printer, print the /etc/hosts file. To test the setup, type:

qprt -c -Pqueue_name /etc/hosts

After printing the file, you can check the status of the print queue using the **lstat** command. To check the status, type:

lpstat -pqueue_name

Chapter 8: PSfilter Setup for UNIX Hosts

{ XE "PSfilter:installing" }PSfilter is a proprietary print redirector that provides peer-to-peer printing for UNIX workstations that use the LANpress MP print server.

PSfilter installs on the UNIX workstation and is used to create local printers that port to the LANpress MP print server. The host is not involved, the workstation manages its own printing. PSfilter supports the following UNIX operating systems:

- SCO UNIX System V Release 3
- HP_UX on HP workstation
- Sun 5.x on Sun SPARC workstation
- AT&T UNIX_SV Release 4
- IBM AIX
- Sun 4.x
- DEC/OSF1

Installing PSfilter on UNIX Operating Systems Other Than IBM AIX

{ XE "UNIX setup:PSfilter for all UNIX except IBM AIX" }This section describes how to install the PSfilter print driver and how to create a printer using PSfilter in most UNIX systems. If you are using an IBM AIX system, go to the next section that describes the installation for IBM AIX.

Requirements:

- The LANpress MP print server must be connected to the network and the power turned on
- The LANpress MP print server must be configured with an IP address
- The LANpress MP print server must be configured with a host name
- All of the ports on the LANpress MP print server that are used for printing must be assigned a logical port designation
- The LANpress MP print server's host name and IP address must be entered in the host's /etc/hosts file

- 1 Log onto the UNIX host as root.
- 2 Insert the diskette labeled LANpress MP UNIX Print Redirector into the workstation's floppy drive.
- 3 If you want to install the PSfilter software in a different directory, change to that directory. At the prompt, type:

```
tar xvf /dev/drive_name
```

Where **drive_name** is the name of the floppy drive.

This command creates a subdirectory called LPTI in your current directory and copies the following files { XE "Files:installed for PSfilter" } to that subdirectory:

- **install.sh** - This is a script file used to install the PSfilter software
- **dumb_int.sh** - A template for the printer interface script installed on System V UNIX systems
- **intmesg** - A text file containing the messages displayed by install.sh
- **mycc** - The script file used to invoke the host's compiler to compile PSfilter from the source code in PSfilter.c
- **LPsource** - A subdirectory containing the following files:
 - **PSfilter.c** - The source code for PSfilter
 - **errmsg.h** - An include file containing PSfilter's error messages

4 Change to the LPTI subdirectory . Type:

cd LPTI

5 Create a local printer that uses PSfilter. Type: { XE "install.sh" }

./install.sh *printer_name* *PS_Host_Name* *port=p* [*text*]

Where:

- **printer_name** is the name you want to use to identify the printer
- **PS_Host_Name** is the host name of the LANpress as defined in /etc/hosts file
- **port=p** identifies the physical port on the LANpress MP print server that you want to print to. If the port you want to use is a parallel port, substitute the parallel port number for **p**. If the port you want to use is a serial port, substitute **S** for **p**. If you do not enter a value for p, parallel port 1 will be used.

LANpress MP port:	Value for <i>p</i>
PARALLEL1	1
PARALLEL2	2
PARALLEL3	3
SERIAL	S

- **text** enables text mode. This parameter is optional, but is required if you use the printer to print text files. This option causes the LANpress MP print server to convert Line feed to Carriage Return + Line Feed.

This completes setting up a local printer with PSfilter. To verify that the printer is working, print a file using the new printer. To print a file, type:

For SYSTEM V:

```
lp -d printer_name /etc/hosts
```

For BSD systems:

```
lpr -Pprinter_name /etc/hosts
```

PSfilter Setup: IBM AIX

{ XE "UNIX setup:psfilter for IBM AIX" } This section describes how to install the PSfilter print driver and how to create a printer using PSfilter in IBM AIX systems. This instruction assumes that the LANpress MP print server is installed and operating.

- 1 Log onto the UNIX host as root.
- 2 Insert the diskette labeled LANpress MP UNIX Print Redirector into the workstation's floppy drive.
- 3 If you want to install the PSfilter software in a different directory, change to that directory. At the prompt, type:

```
tar xvf /dev/drive_name
```

Where *drive_name* is the name of the floppy drive.

This command creates a subdirectory called LPTI in your current directory and copies the following files { XE "Files:installed for PSfilter" } to that subdirectory:

- **install.sh** - This is a script file used to install the PSfilter software
- **dumb_int.sh** - A template for the printer interface script installed on System V UNIX systems
- **intmesg** - A text file containing the messages displayed by install.sh
- **mycc** - The script file used to invoke the host's compiler to compile PSfilter from the source code in PSfilter.c
- **LPSource** - A subdirectory containing the following files:
 - **PSfilter.c** - The source code for PSfilter
 - **errormsg.h** - An include file containing PSfilter's error messages

- 4 Change to the LPTI subdirectory. Type:

```
cd LPTI
```

- 5 Invoke the script mycc. Type:

```
./mycc
```

This script invokes the host's compiler, which compiles PSfilter from the source code psfilter.c.

6 Create a fake printer device for each printer attached to the LANpress MP by typing:

```
cp /dev/null /dev/printer_name
```

where **printer_name** is the name you are assigning to the printer connected to LANpress MP.

7 Use the **chmod** command as follows to change the access permission to the fake printer device:

```
chmod 666 /dev/printer_name
```

8 Invoke **smit**. Type:

```
smit mkvirprt
```

9 smit prompts you, "Specify where the printer is attached." Choose Printer or Plotter Attached to Host.

10 smit prompts you, "Specify a device name:" Type:

```
printer_name
```

11 smit prompts you with additional questions about the installation. Respond to these prompts as you see fit.

12 Create a back-end script file with the following contents

```
#!/bin/sh
/usr/lib/lpd/piobe $* | pathPSfilter -D PS_Host_Name[-o port]
[-T]
```

Where:

- **path** specifies the full path to the PSfilter executable program.
- **PS_Host_Name** is the LANpress MP name used in the host's /etc/hosts file
- **port** identifies the physical port on the LANpress MP print server that you want to print to. If the port you want to use is a parallel port, substitute the parallel port number for **port**. If the port you want to use is a serial port, substitute **S** for **port**. If you do not enter a value for p, parallel port 1 will be used.

LANpress MP port:	Value for <i>port</i>
PARALLEL1	1
PARALLEL2	2
PARALLEL3	3
SERIAL	S

- **-T**, if present, specifies whether or not to perform linefeed-to-carriage-return-plus-linefeed conversion or not. If the **-T** is present, the conversion is performed. If the **-T** is absent, the conversion is not performed.

13 Grant execution permission to the back-end script file. For instance, if the name of the file is **script.1**, you'd type:

```
chmod +x script.1
```

14 Associate the queue device with the script file. To make the association:

A Type:

```
smit chqueuedev.
```

B Move the cursor to BACKEND PROGRAM pathname.

C Type the full path name of the new script file.

This completes setting up a local printed with PSfilter on an IBM AIX system. To install additional printer, repeat steps 3 to 11 for each printer you are connecting to the LANpress MP. We recommend that you check the /etc/qconfig file to see whether the back-end program of the queue device is correctly modified.

What install.sh Does

This section tells what the PSfilter installation script **install.sh** { XE "install.sh:what it does" } does when you use it to set up a UNIX host for printing to LANpress MP via PSfilter.

The script **install.sh** automatically detects the general type of UNIX in use, and installs PSfilter in one of the two ways described below.

System V (Sun 5.x, SCO, HP-UX, etc.)

In System V UNIX environments, **install.sh** { XE "install.sh" } creates a print interface file *printer_name* in the following path:

```
/usr/spool/lp/admins/lp/interfaces/printer_name
```

The contents of the file *printer_name* will be similar to the following:

```
PMFILTER_CMD="/path/LPT1/LPSOURCE/PSFILTER -D
LANpress_name -o port [-T]
```

Where:

- **path** specifies the path to the LPT1 directory created during the setup procedure described previously.
- **LANpress_name** is the LANpress name specified when **install.sh** was invoked. This should be the LANpress MP's name as defined in the host's /etc/hosts file

- **port** identifies the physical port on the LANpress MP print server that you want to print to. If the port you want to use is a parallel port, substitute the parallel port number for **port**. If the port you want to use is a serial port, substitute **S** for **port**. If you do not enter a value for p, parallel port 1 will be used.

LANpress MP port:	Value for <i>port</i>
PARALLEL1	1
PARALLEL2	2
PARALLEL3	3
SERIAL	S

- **-T**, if present, specifies whether or not to perform linefeed-to-carriage-return-plus-linefeed conversion or not. If the **-T** is present, the conversion is performed. If the **-T** is absent, the conversion is not performed.

Note: The printer interface file is basically a copy of the dumb_int.sh file copied from the LANpress MP's UNIX Utilities Diskette during the setup procedure described previously.

BSD (Sun 4.x and DEC/OSF1)

In BSD UNIX environments, install.sh creates the following entry in the host's /etc/printcap{ XE "Printcap file entry:created by install.sh (for PSfilter installation)" } file.

```
printer_name|LANpress printer on portn:|
  :lp=/dev/printer_name\|
  :sd=/usr/spool/printer_name\|
  :of=port/LPT1/LPsource/PSfilter:\|
  :mx#0:
```

Where:

- **printer_name** is the printer name specified when invoking install.sh
- **n** is the port on the LANpress MP specified when invoking install.sh
- **path** is the path to the LPT1 directory created when the LANpress software was copied from the Utilities diskette with tar.

The install.sh script also creates the file **psopts** in the *printer_name* directory referenced in the **:lp=** line of the printcap entry. This file contains the following text:

```
D LANpress_name
o port
[T]
```

Where:

- **LANpress_name** is the LANpress name specified when install.sh was invoked. This should be the LANpress MP's name as defined in the host's /etc/hosts file
- **port** identifies the physical port on the LANpress MP print server that you want to print to. If the port you want to use is a parallel port, substitute the parallel port number for **port**. If the port you want to use is a serial port, substitute **S** for **port**. If you do not enter a value for p, parallel port 1 will be used.

LANpress MP port:	Value for port
PARALLEL1	1
PARALLEL2	2
PARALLEL3	3
SERIAL	S

- **T**, if present, specifies whether or not to perform linefeed-to-carriage-return-plus-linefeed conversion or not. If the **T** is present, the conversion is performed. If the **T** is absent, the conversion is not performed.

After Running Install.sh

After the execution of install.sh, an interface script file is created and stored in the following directory:

/usr/spool/lp/interface/printer_name

By looking at the contents of the script file, you will see a command line to invoke PSfilter program:

PMFILTER_CMD = "/home/lanpress/LPTI/LPsource/PSfilter -D mp31"

This command line indicates two things:

1)The PSfilter files have been installed in the directory /home/lanpress/LPTI, and the PSfilter program file has been compiled and stored under LPsource { XE "LPsource" } subdirectory as described above.

2)The PSfilter options have "-D mp31" as the printer_name specifier.

The available PSfilter options are described in the next section.

Two lines of codes in the interface script file are used to control the banner page printing and the form feed after each print job:

banner = "yes"

filebreak = "yes"

If you want to suppress the banner page, set the banner = "no". If, for some reason, you see an unnecessary form feed, set filebreak = "no".

PSfilter Options

PSfilter supports many options { XE "options:PSfilter" } to meet the needs of printing a print job. PSfilter takes the following options:

-Ddestination— Send data file to destination. Destination is the host name of LANpress. This option must be specified.

-output_port—Data is sent to the specific printer port of LANpress. Output port can be 1, 2, 3, or s. They are for parallel port 1, 2, 3 or serial port respectively. Depending on your LANpress models, you may or may not need this option. If -o is not specified, parallel port 1 will be selected.

-pstring—Send printable string before a print job. String must be within double quotes. For example:

```
PSfilter -Dhost_name -o1 -p"This is my job"
```

-sstring—Send printable string after a print job. String must be within double quotes. For example:

```
PSfilter -Dhost_name -o2 -s"End of job"
```

-h head_file—Send a file before a print job. File can contain non-printable printer control characters. For example:

```
PSfilter -Dhost_name -o2 -h/usr/eric/myhfile
```

-t tail_file—Send a file after a print job. File can contain non-printable printer control characters.

```
PSfilter -Dhost_name -o2 -t/usr/eric/mytfile
```

-d delay_min—The number of minutes allowed before the active print job is aborted when printer faults occurs. Default value is -1 which means never aborts.

-r reroute_ports—Automatically send the print job to reroute_ports if the selected printer is busy. Depending on the LANpress models, reroute_ports can be any combination of 1, 2, 3, and s. For example:

```
PSfilter -Dhost_name -o2 -r13s
```

This means to reroute print jobs to parallel port 1, parallel port3, or serial port if parallel port 2 is busy.

-T—Convert LF in the print job to CR+LF. This is needed when printing ASCII file.

Chapter 9: TCP/IP Reference Information

UNIX Printing

There are three ways to send the print jobs to LANpress MP for printing: 1) through LPD protocol, 2) through PSfilter protocol, and 3) through TFTP protocol.

LPD and PSfilter Printing

LPD protocol is built-in to most UNIX systems. However, the exact implementation of LPD differs among the various UNIX versions. Refer to your UNIX administration guide for full information on the printing commands used on your UNIX system.

The following is a typical BSD UNIX printing command:

lpr -Pprinter_name filename

TFTP Printing

TFTP Printing lets you send print jobs directly to the printer. There are no spooling mechanisms involved. Consequently, if the target printer is not ready, the TFTP process is terminated without printing. In order to use tftp printing successfully, you must first must make sure that the printer is ready to print.

Follow this procedure to print via tftp:

1. Log into the LANpress MP with tftp as follows:

tftp PS_Host_Name

2. At the tftp prompt, use the LANpress MP's **put** command as follows:

put File_Name Ln

where ***Ln*** is one of the LANpress MP's logical ports from L1 to L8.

This example prints the /etc/hosts file to the printer on the LANpress Marketing's logical port L1.

Get Printer Status

The printer status will tell you whether the printer is on-line, off-line, or whether it is printing job sent from NetWare protocol , TCP/IP protocol, or AppleTalk protocol. The printer status also can tell you whether the printer is printing a job or is idle.

In TCP/IP, use Telnet to login to your LANpress MP and type **monitor** to monitor the printer status. The printer status will be updated every second. Type **<Ctrl><C>** to stop the monitor display. Type **exit** to exit Telnet session.

Changing LANpress MP's Configuration Using tftp

{ XE "tftp:using to configure LANpress MP under UNIX" }{ XE "Configuring LANpress MP:using UNIX tftp commands" }Once the LANpress MP is installed in a TCP/IP environment, the standard way of changing its configuration is to use the unit's on-board configuration programs (accessed via tftp) to export and import the unit's configuration settings. These settings are stored in the unit's configuration table in its non-volatile memory. For more information about the configuration table, see the Appendix titled *LANpress MP's Configuration Table* on page 119.

Note: You can also use MPADMIN or MPCONFIG to configure the LANpress MP print server. See Chapter 3 LANpress MP Administration Utility for more information about these utilities.

Basic Procedure

Changing the LANpress MP's configuration using tftp is basically a four-step process:

- 1 **Output the LANpress MP's Configuration Table to a File** - First, you use tftp to tell the LANpress MP to output its configuration table (stored in the unit's non-volatile RAM) to a text file. The tftp command for this is:

tftp>get CONFIG

This causes LANpress MP to output the information in its configuration table to the file CONFIG in the current subdirectory.

- 2 **Edit the Configuration File** - Next, you use a text editor (such as **vi**) to edit the information in the text file. For more information about the configuration table, see the Appendix titled *Configuration Table* starting on page 119.
- 3 **Load the Configuration File into LANpress MP** - After editing the configuration file, you use tftp to tell the LANpress MP to load its configuration table from the edited text file. The tftp command for this is:

tftp>put CONFIG

- 4 **Reboot the LANpress MP** - Finally, you use tftp to tell the unit to reboot, in order to put the new configuration information into effect. The tftp command for this is:

tftp>get RESET

In-Depth Procedure

The following is the full procedure for configuring the LANpress MP under UNIX:

1. Invoke tftp:

tftp LANpress_Name

This starts a tftp session with the LANpress.

2. At the tftp prompt, issue the following tftp commands

get CONFIG

quit

This causes LANpress MP to output the configuration table to the file CONFIG in the current subdirectory.

Note: The bold typeface in the example above indicates the things you type in. The non-bold typeface indicates the tftp prompt that tftp puts on the screen.

3. Use a text editor such as vi to edit the contents of the CONFIG file relevant to the configuration items you want to change. For a full listing of the contents of the configuration table, see the Appendix titled *Configuration Table* on page 119.
4. After editing the CONFIG file, re-invoke tftp, for example:
5. At the tftp prompt, issue the following tftp commands:

put CONFIG

get RESET

quit

This causes LANpress MP to load its configuration table from the contents of the file CONFIG in the current subdirectory, and then to reboot.

The modifications made to the configuration table will take effect after the LANpress reboots.

Configuring LANpress MP's Logical Ports Using tftp

{ XE "Logical ports:configuring with UNIX tftp" }In LPD-type printing installations, the LANpress MP's logical ports provide the only connection between the printer defined in UNIX and the LANpress MP's physical ports.

Important: The logical ports cannot be used in UNIX installations that use PSfilter.

To configure the logical ports (and other LANpress settings) under UNIX and Windows NT, start by exporting the unit's configuration information to a text file as described in the previous section.

Next, use a text editor such as vi to edit the contents of the CONFIG file relevant to the LANpress MP's logical ports. The relevant entries are numbered 0100 through either 0143 (single-port models) or 0243 (three- or four-port models). A typical block of entries is shown below. For a full listing of the contents of the configuration table, see the Appendix titled *Configuration Table* on page 119.

0100 L1_PROUT:P1
0101 L1_PREST:1B266C314F
0103 L1_POSTR:1B266C304F
0104 L1_CHGLF:No

In this block of entries:

- The L1_PROUT entry specifies the physical port on the LANpress for logical port L1. In the example above, the port specified is PARALLEL1. Other possibilities are P2 for PARALLEL2, P3 for PARALLEL3, or SP for SERIAL.
- The L1_PREST entry specifies the pre-string for logical port L1, entered in hexadecimal notation. The pre-string is issued before every job printed to the logical port. In the example above, the pre-string is 1B266C314F, which is the hexadecimal equivalent of <Esc>&1o. This is the escape code for "change to landscape orientation" for most LaserJet-type printers. For a full listing of the escape codes that apply to your printer, see the documentation supplied with the printer.

Important: Observe the following points when using the logical port's pre-strings and post-strings:

- Always enter pre-strings and post strings { XE "Pre- and post-strings:entering in hexadecimal notation" } in hexadecimal notation. If your printer's manual does not list hexadecimal values for printer commands, use a calculator to convert the ASCII codes to hexadecimal values.
- The pre- and post-strings { XE "Pre- and post-strings:length limitations of" } may not be longer than 15 ASCII characters (30 Hexadecimal digits) each.
- The combined length of all of the pre-strings and post-strings entered for all of the unit's logical ports may not exceed 44 ASCII characters (88 Hexadecimal digits).
- The L1_POSTR entry specifies the post-string for logical port L1, entered in hexadecimal notation. The post-string is issued after every job printed to the logical port. In the example above, the post-string is blank. In the example above, the pre-string is 1B266C314F, which is the hexadecimal equivalent of <Esc>&1o. This is the escape code for "change to portrait orientation" for most LaserJet-type printers. For a full listing of the escape codes that apply to your printer, see the documentation supplied with the printer.
- The L1_CHGLF entry specifies whether or not to convert linefeeds into linefeed plus carriage return. In the example above, No is specified.

The entries for logical ports L2 through L8 follow the conventions described above. Note that entries L4 through L8 are not valid for LANpress models that have only one physical port. For such LANpress models, these entries will be absent from the CONFIG file.

After editing the CONFIG file, use the tftp commands **put CONFIG** and **get RESET** to load the configuration table from the file and to reboot the unit. The modifications made to the configuration table will take effect after the LANpress reboots.

Administering LANpress MP Using tftp

The LANpress MP has on-board configuration software that can be accessed using tftp commands. The following is a full listing of the tftp commands supported by LANpress MP:

- **get CONFIG** - This command causes LANpress MP to output its current configuration table to the file CONFIG in the current subdirectory. Afterwards, you can use a text editor such as vi to edit the configuration information in the CONFIG file.
- **put CONFIG** - This command causes LANpress MP to read the file CONFIG under the current subdirectory into its configuration table. After you have edited the contents of the CONFIG file, you can use this command to load the modified configuration information into the LANpress MP's configuration table.

Note: For procedures on using **get CONFIG** and **put CONFIG**, see *Changing LANpress MP's Configuration Using tftpon* page 106.

- **put FILE_NAME Logical_Port** - This command causes the LANpress MP to print the specified file to the specified logical port. For more information, see the section *TFTP Printing* on page 105.
- **get RESET** - This command causes LANpress MP to reboot itself. Use this command to reboot the LANpress after changing any of its configuration items.
- **get SETIP** - This command causes LANpress MP to obtain its IP address from the host's arp table, and write the address to its non-volatile memory.
- **get DEFAULTC** - This command restores all parameters in the configuration table to their factory default settings.

UNIX Troubleshooting

Common Printing Problems

Problem: LANpress MP power light and status lights are both off.

Solution: Check the power supply or power connection.

Problem: LANpress MP status light and power light stay on continuously and does not turn off.

Solution: Reset LANpress MP by unplugging the power supply and plugging it back in.

Problem: A printing device connected to the serial port cannot print or prints garbage.

Solution: Check the cable connection and the serial port configuration. If the configuration in the LANpress MP does not match that of the device attached to the LANpress MP serial port, incorrect data will be sent to the device.

Problem: A printing device attached to one of the LANpress MP's parallel ports has garbled printer output.

Solution: Check the device's cable connection.

Problem: The standard interface program on SUN 5.2 cannot be used with PSfilter.

Solution: Use dumb_int.sh, which is the interface program shipped with LANpress MP.

Problem: When the interface program detects that the printer device is not a printer, an error message about the printer appears on the screen.

Solution: Mark out all stty commands in the interface script.

Problem: The format of .psopts file is not accepted by BSD UNIX.

Solution: If the prefix string and suffix string must contain control words or are too long, use headfile or tailfile instead of prefix string or suffix string.

IP Address Problems

Problem: You cannot remember the LANpress MP's IP address, and need to change the IP address to install the unit on a different network segment.

Solution: First, use arp to temporarily assign the unit its new IP address, as follows:

arp -s *New_IP_address* *Node_address*

Where:

- **New_IP_address** is the new IP address that you will be assigning to the LANpress MP

- **Node_Address** is the unit's Ethernet node address as decoded from the LANpress MP's serial number. To determine the node address, just add 00C002 to the front of the numerical portion of the serial number.

Next, use tftp to tell the unit to reset its configuration to factory default, type:

```
tftp New_IP_address  
get DEFAULTC  
quit
```

This resets the unit's configuration (including the IP address) to the factory default. Afterwards, reconfigure the unit as described in Chapter 6: *Configuring the LANpress MP Print Server for UNIX*.

Chapter 10: AppleTalk Setup

All LANpress MP print servers except the LANpress 2 + 1 Token Ring supports AppleTalk (EtherTalk), PAP, ATP, NBP and DDP protocols, enabling Macintosh computers on the network to view and use LANpress MP's printers as if they were regular AppleTalk printers. Configuring and printing in the EtherTalk environment operates completely as usual. The printer name and printer type can be changed by using the PSTool utility provided with LANpress MP. This chapter describes how to install and configure the LANpress MP in AppleTalk { XE "AppleTalk:setup" } environments.

Workstation Setup

Software Requirements

- System 7.x OS

This procedure describes how to set up a Macintosh workstation to print to the LANpress MP's attached printers. You must do this for every AppleTalk workstation that will print to the LANpress MP's printers.

- 1 Go to the Apple menu and choose Control Panels.
- 2 Double-click the Network icon to open the Network window.
- 3 Make sure that EtherTalk is selected as the current AppleTalk Connection. If not, select it now.
- 4 Return to the Apple menu and choose Chooser. The Chooser panel opens.
- 5 In the Chooser window, select either the LaserWriter 8.0 icon (recommended) or the standard LaserWriter icon (If the version number isn't listed, it is version 7.0).

The LaserWriter { XE "LaserWriter" } 8.0 driver makes use of the fonts installed in the printer itself, so the printing response time is quicker. The standard LaserWriter driver uses the fonts installed in the computer, which increases network traffic and takes more printing time.

- **6**In the Select a LaserWriter list, locate the LANpress MP's listing(s) as shown in the following table. LANpress 1P and Jr. models will have only the *LANpress_name* listing, other models will have additional listings for the unit's extra printer ports.

LANpress MP port:	Value for <i>port</i>
PARALLEL1	1
PARALLEL2	2
PARALLEL3	3
SERIAL	S

Note The default LANpress name is the unit's serial number (usually starting with **CT**). However, this can be changed under AppleTalk, NetWare, or TCP/IP.

- 7 Select one of the LANpress MP's listings that you know to be connected to a LaserWriter or other PostScript-compatible printer.
- 8 Close the Chooser. This completes the LANpress MP setup process. Afterwards, all print jobs will be routed to the selected LANpress MP printer port.

Using MPADMIN to Configure the LANpress MP for AppleTalk

The MPADMIN utility is located on the LANpress MP Administration Utilities for Windows & DOS diskette. You can install MPADMIN on Windows 3.1, Windows 3.11, Windows 95 and Windows NT workstations. This section describes installing MPADMIN and its features.

Requirements:

- A Windows workstation that is connected to the network and that has the IPX/SPX protocol installed and active. The network does not have to support IPX/SPX protocol for you to use MPADMIN. Refer to your Windows documentation if you need assistance verifying that the protocol is installed or if you need assistance installing the protocol.

- 1 Locate the Castelle LANpress program group on your desktop and select MPADMIN.
- 2 Click on the AppleTalk button or open the Configuration pull down menu and select AppleTalk.

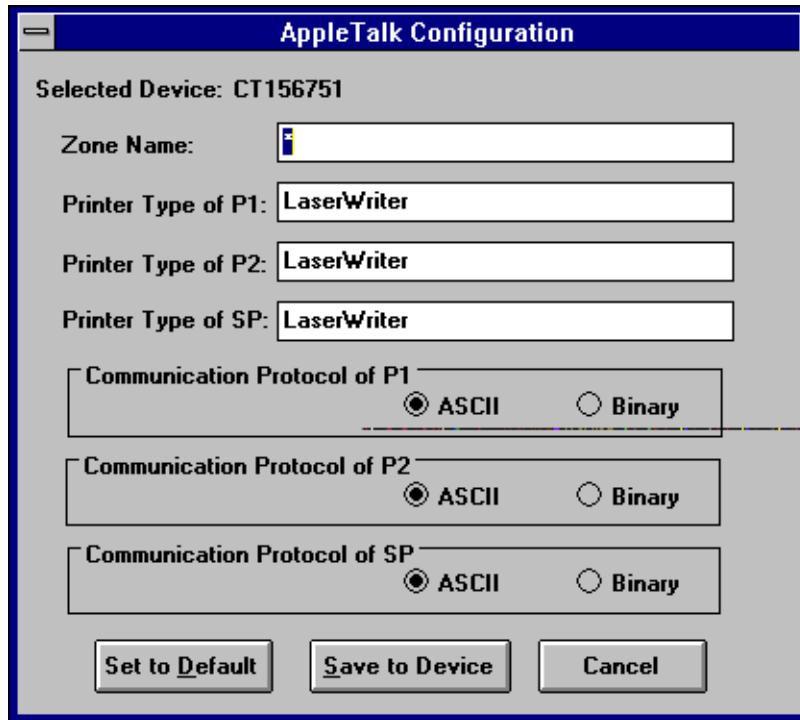


Figure 23 AppleTalk Dialogue Box

- 3 Enter the zone { XE "zone" \i } you want the LANpress MP print server to serve. The default value, *, allows the print server to service all zones.
- 4 Enter the printer model that is connected to each LANpress MP printer port. The program does not accept spaces in your text.
- 5 Select the communication protocol { XE "communication protocol" \i } that your printer supports.
- 6 Click on the Save to Device button to write the configuration to the LANpress MP server.

Printing

Once you've chosen one of the LANpress MP's printers as described in the previous section, you can print to it exactly as if it were connected directly to the Macintosh.

Advanced Configuration under AppleTalk

In AppleTalk{ XE "AppleTalk:Configuring LANpress MP under" }, you can use the PSTool supplied on the LANpress MP's AppleTalk Utilities diskette to configure the LANpress.

To configure LANpress MP under AppleTalk, you first use a text editor to modify the parameters in the default CONFIG file supplied on the unit's AppleTalk utilities diskette. Then you use PSTool to cause LANpress MP to read the contents of the CONFIG file into the configuration table in its non-volatile memory.

The format of the CONFIG file is described in Appendix A, *LANpress MP's Configuration Table*, starting on page 119.

Follow this procedure to configure LANpress MP under AppleTalk:

- 1 Use Chooser to select the desired LANpress MP as described in the section *AppleTalk Setup* on page 113.
- 2 Insert the LANpress MP AppleTalk Utilities diskette and click on its icon. You will see at least these two files:
 - **PSTool**{ XE "PSTool:described" } - A downloading utility used to load the LANpress MP's configuration table from the information in the config file.
 - **config**{ XE "config:described" } - A default configuration file that you can edit and then use to configure the LANpress MP.

These appear as shown in the following figure.

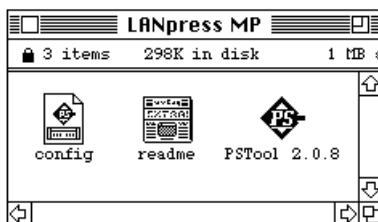
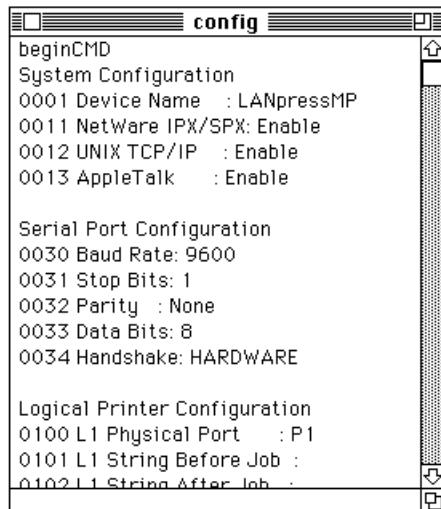


Figure 24: LANpress MP AppleTalk Utilities diskette Contents

- 3 Copy all the files from the LANpress MP AppleTalk Utilities diskette into a folder on your workstation's hard disk. Then put the original diskette away for safekeeping.
- 4 Locate your copy of the config file and double click its icon to open it for editing.

- 5 Edit the relevant portions of the config file. For instance, to change the LANpress' name from the serial number to something else, enter the name after the 0001 Device Name : entry as shown in the figure below.



```

config
beginCMD
System Configuration
0001 Device Name : LANpressMP
0011 NetWare IPX/SPX: Enable
0012 UNIX TCP/IP : Enable
0013 AppleTalk : Enable

Serial Port Configuration
0030 Baud Rate: 9600
0031 Stop Bits: 1
0032 Parity : None
0033 Data Bits: 8
0034 Handshake: HARDWARE

Logical Printer Configuration
0100 L1 Physical Port : P1
0101 L1 String Before Job :
0102 L1 String After Job :

```

Figure 25: Editing the Config File on a Macintosh

Important: Do not edit the lines containing the statements beginCMD (at the beginning of the file) or 9002: (at the end of the file). These are used by PSTool and must not be changed.

For more information about the contents of the CONFIG file, see the later Appendix titled *LANpress MP's Configuration Table*

- 4 Save the file.
- 5 Double click the icon for PSTool.
- 6 Go to the Printer submenu, and choose Download Postscript File. A panel appears with a list of files, as shown below.

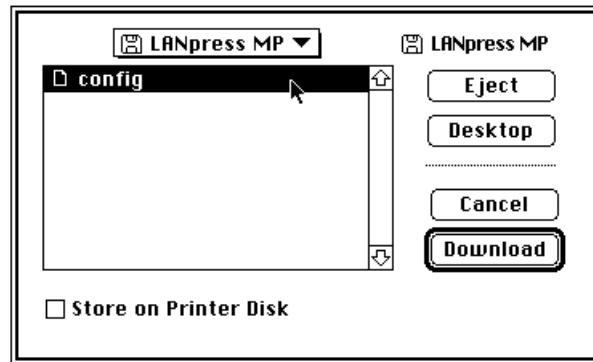


Figure 26: Downloading the Config File

- 7** Select the config file, then choose Download.
- 8** When the file is 100% downloaded, choose Cancel to exit PSTool.

Appendix A: LANpress MP's Configuration Table

The LANpress MP maintains a configuration table in its non-volatile memory. This table contains the configuration information that defines the LANpress' current installation. You can make changes to the entries in the configuration table as follows:

- **Under NetWare** - In NetWare environments, the only way to get at the configuration table is through MPCONFIG. This menu-driven utility gives you easy access to all of the configuration table's entries. For more information about using MPCONFIG to configure LANpress MP, see the chapter titled Advanced Configuration with MPCONFIG.
- **Under UNIX and Windows NT** - In UNIX and Windows NT environments, you can use **tftp** commands to cause the LANpress to output its configuration table to a file or to load its configuration table from a file. In between these two operations, you can use a text editor to modify the contents of the file.
- **Under AppleTalk** - In AppleTalk environments, you can use the utility PSTool (supplied on the LANpress MP's AppleTalk Utilities diskette) to cause the LANpress MP to load its configuration table from a config file. To change the LANpress MP's configuration, simply use a text editor to change the contents of the config file before loading it into the LANpress MP.

Configuration Table

The format and contents of the LANpress MP's configuration table are shown in the table below:

Entry	Description	Parameter Type	Factory Default
0001 BOX_NAME:	Print Server Name	ASCII string (19 chars max)	serial number
0011 IPXSPX_P:	NetWare Protocol Stack	Enable or Disable	Enable
0012 TCPIP_P :	TCP/IP Protocol Stack	Enable or Disable	Enable
0013 APTALK_P:	AppleTalk Protocol Stack	Enable or Disable	Enable
0014 NETB_P	NetBEUI Protocol Stack	Enable or Disable	Enable
0030 BAUDRATE:	Serial port's Baud rate	300 through 38400	9600
0031 STOPBITS:	Serial port's Stop bits	1 or 2	1
0032 PARITY :	Serial port's parity	NONE, ODD, or EVEN	None
0033 DATABITS:	Serial port's Data bits	7 or 8	8
0034 HANDSHAK:	Serial port's handshake	HARDWARE, XON/XOFF, or BOTH	HARDWARE
0100 L1_PROUT:	Physical port of Logical port 1	P1, P2, P3, SP	P1
0101 L1_PREST:	Pre-string for Logical port 1	hexadecimal string	
0102 L1_POSTR:	Post-string for Logical port 1	hexadecimal string	

Appendix A: LANpress MP's Configuration Table

0103 L1_CHGLF:	Change LF into CR+LF for Logical port 1	YES or NO	NO
0120 L2_PROUT:	Physical port of Logical port 2	P1, P2, P3, SP	P1
0121 L2_PREST:	Pre-string for Logical port 2	hexadecimal string	
0122 L2_POSTR:	Post-string for Logical port 2	hexadecimal string	
0123 L2_CHGLF:	Change LF into CR+LF for Logical port 2	YES or NO	NO
0140 L3_PROUT:	Physical port of Logical port 3	P1, P2, P3, SP	P1
0141 L3_PREST:	Pre-string for Logical port 3	hexadecimal string	
0142 L3_POSTR:	Post-string for Logical port 3	hexadecimal string	
0143 L3_CHGLF:	Change LF into CR+LF for Logical port 3	YES or NO	NO
0160 L4_PROUT:	Physical port of Logical port 4	P1, P2, P3, SP	P1
0161 L4_PREST:	Pre-string for Logical port 4	hexadecimal string	
0162 L4_POSTR:	Post-string for Logical port 4	hexadecimal string	
0163 L4_CHGLF:	Change LF into CR+LF for Logical port 4	YES or NO	NO
0180 L5_PROUT:	Physical port of Logical port 5	P1, P2, P3, SP	P1
0181 L5_PREST:	Pre-string for Logical port 5	hexadecimal string	
0182 L5_POSTR:	Post-string for Logical port 5	hexadecimal string	
0183 L5_CHGLF:	Change LF into CR+LF for Logical port 5	YES or NO	NO
0200 L6_PROUT:	Physical port of Logical port 6	P1, P2, P3, SP	P1
0201 L6_PREST:	Pre-string for Logical port 6	hexadecimal string	
0202 L6_POSTR:	Post-string for Logical port 6	hexadecimal string	
0203 L6_CHGLF:	Change LF into CR+LF for Logical port 6	YES or NO	NO
0220 L7_PROUT:	Physical port of Logical port 7	P1, P2, P3, SP	P1
0221 L7_PREST:	Pre-string for Logical port 7	hexadecimal string	
0222 L7_POSTR:	Post-string for Logical port 7	hexadecimal string	
0223 L7_CHGLF:	Change LF into CR+LF for Logical port 7	YES or NO	NO
0240 L8_PROUT:	Physical port of Logical port 8	P1, P2, P3, SP	P1
0241 L8_PREST:	Pre-string for Logical port 8	hexadecimal string	
0242 L8_POSTR:	Post-string for Logical port 8	hexadecimal string	
0243 L8_CHGLF:	Change LF into CR+LF for Logical port 8	YES or NO	NO
2000 NOP_MODE:	Operation mode in NetWare	PS (print server) or RP (remote printer)	PS
2001 NFRETHII:	Ethernet II Frame Type in NetWare	Enable or Disable	Enable
2002 NFR802.2:	802.2 Frame Type in NetWare	Enable or Disable	Enable

2003 NFR802.3:	802.3 Frame Type in NetWare	Enable or Disable	Enable
2004 NFRSNAP :	SNAP Frame Type in NetWare	Enable or Disable	Enable
2101 NFS_NAME:	Master File Server	ASCII string	
2102 N_NOTIFY:	Job Notification by node address in NetWare print server mode	YES or NO	NO
2103 N_FREQ :	NetWare queue polling Interval	1 to 255	1
2110 NFS_TREE:	Name of NetWare NDS Tree	ASCII string	
2111 NCONTEXT:	NDS Context of Print Server	ASCII string	
2501 NR_NAME1:	Name of NetWare Print Server for PARALLEL1 port	ASCII string	
2502 NR_NAME2:	Name of NetWare Print Server for PARALLEL2 port	ASCII string	
2503 NR_NAME3:	Name of NetWare Print Server for SERIAL port (2+1 models) or PARALLEL3 port (3+1 models)	ASCII string	
2504 NR_NAME4:	Name of NetWare Print Server for SERIAL port (3+1 models)	ASCII string	
3000 AP_ZONE:		ASCII string	*(any zone)
3001 AP_TYPE1:	Printer Type for parallel port 1 for AppleTalk	ASCII string	
3002 AP_TYPE2:	Printer Type for parallel port 2 for AppleTalk	ASCII string	
3003 AP_TYPE3:	Printer Type for SERIAL port (2+1 models) or PARALLEL3 port (3+1 models) for AppleTalk	ASCII string	
3004 AP_TYPE4:	Printer Type for SERIAL port (3+1 models) for AppleTalk	ASCII string	
3101 AP_PCOMM1	Default is ASCII encoding	ASCII string	NO
3102 AP_PCOMM2	Default is ASCII encoding	ASCII string	NO
3103 AP_PCOMM3	Default is ASCII encoding	ASCII string	NO
3104 AP_PCOMM4	Default is ASCII encoding	ASCII string	NO
4000 IP_ADDR:	IP Address{ XE "IP Address" }	dotted-decimal	0.0.0.0
4001 GATEWAY:	Gateway{ XE "Gateway:address for TCP/IP routing" } or Router{ XE "Router:address for TCP/IP routing" } Address for TCP/IP	dotted-decimal	0.0.0.0
4002 MASK :	Subnetwork mask for TCP/IP{ XE "Subnetwork mask: for TCP/IP" }	dotted-decimal	0.0.0.0

Appendix B LANpress MP Specifications

LANpress MP Product Matrix		
Model	Network Connections	Printer Connections
LANpress 3P/100	100BASE-T (category 5) 10BASE-T	3 Parallel Ports (DB-25 connector) 3 Parallel Ports (DB-25 connector)
LANpress 3+1 MP	10BASE-2 (Thin) 10BASE-T	3 Parallel Ports (DB-25 connector) 1 Serial Port (DB-9 connector)
LANpress 2+1 MP	10BASE-2 (Thin) 10BASE-T	2 Parallel Ports (DB-25 connector) 1 Serial Port (DB-9 connector)
LANpress 2+1 MP Token Ring	STP UTP	2 Parallel Ports (DB-25 connector) 1 Serial Port (DB-9 connector)
LANpress 1P MP	10BASE-2 (Thin) 10BASE-T	1 Parallel Port (DB-25 connector)
LANpress Jr. MP	10BASE-2 (Thin) 10BASE-T	1 Parallel Port (Centronics connector) for direct attachment to printer

LANpress MP Specifications			
Model	Dimensions (WxLxH)	Weight	Power consumption
LANpress 3P/100	5.2" x 9.1" x 1.1"	0.88 lbs	9.6W (800 mA at 12VDC)
LANpress 3+1 MP	6.5" x 12.3 "x 1.6"	1.72 lbs	4.5W (500 mA at 9VDC)
LANpress 2+1 MP	5.2" x 8.1" x 1.1"	0.76 lbs	4.5W (500 mA at 9VDC)
LANpress 2+1 MP Token Ring	5.2" x 8.1" x 1.1"	0.76 lbs	9.6W (800 mA at 12VDC)
LANpress 1P MP	3.6" x 4.9" x 1.2"	0.37 lbs	4.5W (500 mA at 9VDC)
LANpress Jr. MP	3.5" x 2.6" x 1.2"	0.24 lbs	4.5W (500 mA at 9VDC)

Environmental Specifications, All LANpress MP Models	
Operating Temperature	0 ~ 40°C
Storage Temperature	-10 ~ 70°C
Shipping Temperature	-40 ~ 70°C
Operating Humidity	10 ~ 80%
Storage Humidity	5 ~ 90%
Shipping Humidity	5 ~ 100%

Serial Port Specifications, 3+1 and 2+1 Models	
Interface	RS-232
Baud Rate	300 bps through 38400 bps
Handshake	Hardware, XON/XOFF, or Both
Parity	Even, Odd, or None
Data Bits	7 or 8
Stop Bits	1 or 2
Connector	Male DB-9
Cable	Shorter than 15 meters

Parallel Port Pin Assignments		
Pin	Signal Name	Direction
1	-Strobe	To printer
2	+Data 0	To printer
3	+Data 1	To printer
4	+Data 2	To printer
5	+Data 3	To printer
6	+Data 4	To printer
7	+Data 5	To printer
8	+Data 6	To printer
9	+Data 7	To printer
10	- ACK	To print server
11	+ Busy	To print server
12	+ Paper End	To print server
13	+ Select	To print server
14	- Auto Feed	No connection
15	- Error	To print server
16	- Init	To printer
17	- Select	No connection
18-25	GND	Ground

Serial Cable Pinouts, Apple LaserWriter		
Pin	Signal Name	Direction
1	Carrier Detect (CD)	To print server
2	Receive (Rx)	To print server
3	Transmit (Tx)	To printer
4	Data Terminal Ready	To printer
5	Signal Ground (GND)	None
6	Data Set Ready (DSR)	To print server
7	Request to Send (RTS)	To printer
8	Clear to Send (CTS)	To print server
9	Ring Indicator (RI)	To print server

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